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March, 1945

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Queenless packages, deduct \$1.10 per package.

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One story colonies and one extra
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American Bee Journal

HAMILTON, ILLINOIS

March, 1945 Vol. LXXXV, No. 3

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This is the comment
made by Mr. Rahmlow
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Caucasian Bees and Queens

1945

	Queens	2-Lb. Bees	3-Lb. Bees
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Please note, we are sold out on
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AMERICAN BEE JOURNAL

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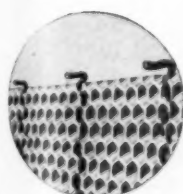
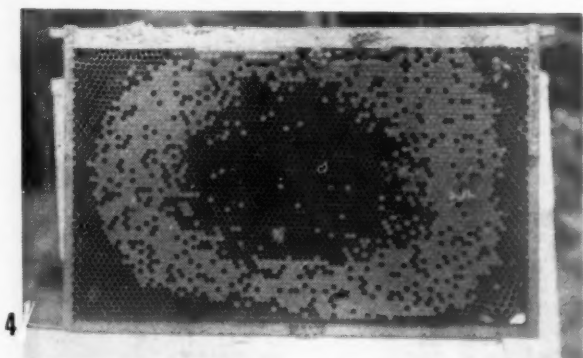
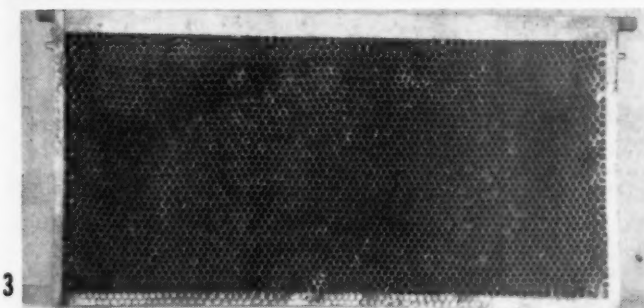
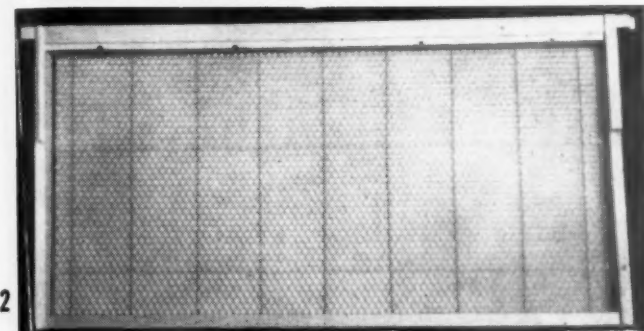
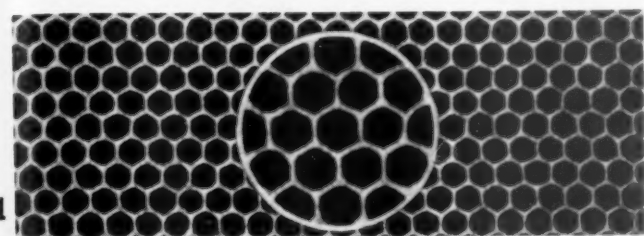
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Combs like this (3) that, after twenty years, are still producing full colonies and carrying full weights of honey.

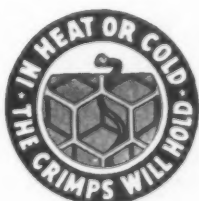
With good queens, brood patterns like this (4) show year after year.

You have made a permanent investment

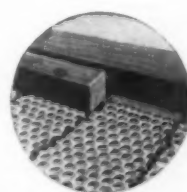
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These steel hooks hold the foundation tightly in the frame



Behind the topbar wedge the hooks safeguard any weight the comb exerts.



DADANT & SONS : Hamilton, Illinois

GREETINGS 1945

We are practically booked to capacity on Package Bees for 1945. If weather conditions are favorable we may be able to handle a few more orders, but won't be able to tell about this until March.

We should be able to handle promptly any queen orders after June 1st.

You may be sure that we will do all we can to get out every package and queen possible, consistent with quality.

ITALIANS

PRICES Through May 20th

CAUCASIANS

Lots of	Queens	2-Lb.	3-Lb.	4-Lb.	5-Lb.
1-24	\$1.25	\$4.00	\$5.10	\$6.20	\$7.30
25-99	1.15	3.75	4.80	5.85	6.90
100 up	1.05	3.50	4.50	5.50	6.50

For queenless packages deduct price of queen

THE STOVER APIARIES MAYHEW, MISSISSIPPI

ITALIAN BEES AND QUEENS

Good service and top quality. Health certificate and live delivery guaranteed. Early orders assures delivery on dates preferred.

PRICES FOR PACKAGES—2-LB. \$3.90 3-LB. \$4.90
QUEENS—1 to 24 \$1.25 25 or over \$1.10
10% discount on orders after May 18 delivery.

NEAL'S APIARIES

HAMBURG, LA.

The BEEKEEPERS ITEM

The Southern beekeepers' own magazine, but read by studios honey producers everywhere. With the American Bee Journal makes a combination that covers the beekeeping field. Send \$1.75 and get Both Magazines for a year BEEKEEPERS ITEM, San Antonio, Texas

A-B-J Ads Bring Results



Feed your bees POLLEN SUBSTITUTES

Bees require large amounts of pollen in the spring for brood rearing, and if your bees are short they will not build up as rapidly as they should.

GOVERNMENT AUTHORITIES RECOMMEND FEEDING POLLEN SUBSTITUTES STARTING MARCH 10TH TO 20TH IN REGIONS WHERE THE MAIN HONEY FLOW BEGINS IN JUNE.

We are publishing a circular giving latest information and prices on substitutes we have in stock for quick shipment.

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Package Bees and Queens
For Quality and Service
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GLENN, CALIFORNIA

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43½ CENTS PER POUND FOR
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Inquiries solicited from central area.

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MAY AND JUNE

3-Banded Italian Bees and
 Queens from Northern bred
 stock of proven quality.

2-Lb. Pkg. 3-Lb. Pkg. Queens
 \$3.50 \$4.50 \$1.10

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406 Miller St.

Hattiesburg, Mississippi

Wanted

We have a good opening for
 another steady bee man—one
 handy at shop work.

F. E. Morrison

P. O. Box 320, Butte City, Calif.

**Italian Package
 Bees and Queens**

FOR 1945 DELIVERY

2-Lb. package with queen.....\$4.00
 3-Lb. package with queen.....5.00

4 percent extra queens with each
 order. BOOK YOUR ORDER EARLY
 AND AVOID DISAPPOINTMENT.

JOHN S. SHACKELFORD

LIVE OAK, CALIFORNIA

NOTICE

Three-Banded Italians

2-Lb. package with queen at.....\$4.00
 3-Lb. package with queen at.....5.00
 Queenless bees per lb. at.....1.25

No extra queens

DUPUIS APIARIES

Andre Dupuis, Prop.

BREAUX BRIDGE, LOUISIANA

BOOKED UP

Until further notice, we cannot accept any more orders for either package bees or queens. We regret to have to disappoint so many of our customers of long standing, and also others who would be buying our stock for the first time.

With an unprecedented inquiry, and such a volume of orders booked far in advance of delivery dates, we feel we could not give you the service you would expect because of dates conflicting in many instances. Watch our advertisement for future announcements.

JENSEN'S APIARIES :: Macon, Miss.

THE HOME OF "MAGNOLIA STATE" ITALIANS

NOTICE

PACKAGE BEE BUYERS

We have booked all the orders for packages we can reasonably expect to ship on time through May 15. After that time we have a few open dates for the remainder of the season.

If we have accepted your order you may rest assured that we will do our best to ship it on time with QUALITY packages and queens.

Those to whom we had to return orders please accept our regrets. There is a limit to what we can ship and we try not to run over that when accepting orders.

Thanking all with the hope that you will have a profitable season.

ROSSMAN & LONG

P. O. Box 133

Moultrie, Georgia

Greetings

At this time we extend to all of our loyal customers and friends,
 sincerest wishes for continued prosperity

ANNOUNCING PACKAGE BEE AND QUEEN

PRICES FOR 1945

	(1 or 2)	(3 to 24)	(27 to 99)	Above
2-Lb. package with queen	\$3.90	\$3.65	\$3.50	\$3.35
3-Lb. package with queen	4.90	4.65	4.50	4.35
4-Lb. package with queen	5.90	5.65	5.50	5.35

For queenless packages deduct \$1.00

For Special Loose Queen Packages add \$1.00. Untested Italian Queens \$1.00 each; Tested \$2.00.

TERMS: All orders should be accompanied with \$1.00 per package to confirm and hold assignment to the shipping schedule. Balance payable before shipped.

THE PUETT COMPANY, Hahira, Ga.

Your Display or Classified Ad in A-B-J Brings Results That Please

For Customers Only

A GAIN we are in the undesirable position of not being able to fill orders for wooden goods except from former customers. Restrictions imposed by the War Production Board will limit us greatly in the manufacture of bee supplies, indicating the great need for lumber to supply our troops.

This limitation does not now apply to bee comb foundation. Whether or not it will apply to other items will depend in part upon supplies of material and the manpower to work them. Every effort will be made to fill orders, but due to the short supply we may have to reduce shipments to any one individual in order to equitably distribute the supply available.

A large stock of comb honey cartons and glass jars (particularly in the 5-pound size) is available. Smokers and veils are in fair supply. Send us your list of needs and we will gladly tell you what we can ship. Never before in the history of this company have we been forced to make such an announcement. How early in 1945 relief may come is problematical.

However, we know you will bear with us if such restrictions imposed by government agencies will help in saving a single life or shortening the war even one day. We can sympathize with you who have sons or daughters in the service. A total of 63 of our employees are now in the armed services of U. S. A.

Write for new low prices on glass containers

G. B. LEWIS COMPANY

WATERTOWN, WISCONSIN

Box 825, Albany, 1, N. Y.; Box 683, Lynchburg, Va.; 214 Pearl St., Sioux City, 14, Iowa

Should the Beekeeper Just Keep Bees or Should He Diversify?

THE beekeeping of tomorrow will be a more intensified, exacting business than it has been. We will use pollen supplements, two queen colonies and more careful honeyflow management which will mean thinking primarily of bees. If one has abundant managing ability and capital, he can profitably delve into other pursuits in off seasons. Otherwise he had better think and invest exclusively in bees. However, I do think it would be a great thing for the prestige of beekeeping and the success of farming if more successful farmers were beekeepers and more successful beekeepers were farmers, since beekeeping and agriculture are pretty well tied up together.

John Wetz, Illinois.

— V —

Of course, the beekeeper should diversify. He can keep poultry and other farm animals, fruit, flowers and vegetables. Then one can eat from his own labor and he is happier, even than kings.

J. J. Vargo, Illinois.

— V —

Everything has been given to us that we need, to prosper. We often hear the expression, "Nothing is perfect." Nature is perfect. We should live in harmony with it and so one who believes in that should diversify to help balance things.

A. G. Pastian, So. Dakota.

— V —

A beekeeper with large holdings must put all his eggs in one basket. His reward comes in bumper crop years, but these years may be few. Now with the "middle class" beekeeper who diversifies to his own benefit, not only for the love of bees, but for the love of other things he does, will always make things do their best.

Carl M. Teasley, Tennessee.

"One thing at a time well done is a good rule," and applies equally to beekeeping. Bees require essentials that must be provided at the proper time and these problems require the beekeeper's attention continuously so that he has little time to devote to other things, particularly in a favorable locality where bees are expected to make a living and not to be kept just as a hobby. If beekeeping is a hobby, other ventures fit in with it well.

On the other hand, I think a beekeeper should not try to keep too many bees. Fewer bees kept better will pay better, and the beekeeper's strength and vitality need not be over-taxed. Beekeepers need time for recreation, study and planning, but do not "get too many irons in the fire, lest some may burn."

W. P. Kinard, Mississippi.

— V —

It is the American custom to desire a big business with all its headaches, pyramiding profits until the business tumbles. This is an everyday occurrence. So plain American psychology tends toward bigger, and bigger apiaries. However, economics teaches that the law of diminishing returns cannot be overcome. Up to a certain point, profits are healthy and normal, and after that, they decrease. That is more obvious in beekeeping than in any other business. The wise will find the point where profits start to diminish and call it his limit. The wear and tear on the human body caused by worry and anxiety cannot be paid for in cash.

Not many years ago I saw farmers have the savings of a life sold out over night with all of their eggs in one basket; and selfishness placed them there. For years, they had raised one crop, made money on it, and had taken on more land and put it to the same crop, and failed.

In diversification there is safety. The one who specializes is at the complete mercy of the buyers. There

are always far less buyers than producers.

We may sometime learn to diversify for self protection. It is more dignified to risk eggs in many baskets than to go back to the WPA when the bottom has fallen out of one basket.

M. E. Felt, New York.

— V —

I am also a firm believer in the old motto, "Don't put all your eggs in one basket." Diversification has pulled many beekeepers through lean years. If you have 1,000 colonies and nothing else, two or three crop failures would prove disastrous. We have a large apiary and also a small farm, with eggs, fruit, cream and vegetables making a good source of income every year and a much higher average. Beekeeping is well adapted to many other things and produces a high income from the amount of time and labor involved.

Walter Barth, New York.

— V —

The person who seeks happiness in life does well not to put all his eggs in one basket. In rare instances, there are those that make a killing, but to many, it ends in failure. A diversified career for beekeepers is ideal, particularly those on highways and in villages where produce may be sold direct; poultry, fruit, greenhouse culture, general farming—all go well with beekeeping. An individual small business is what we must have. More satisfaction in life is found with one who is free to think and do, a richer and nobler life.

Frank A. Tinari,
Pennsylvania.

— V —

This question can have a variety of answers, all different, and probably all correct. It depends on the locality. In favorable places, individuals having what it takes, should

WHAT DO YOU THINK?

J. H. Sturdevant, Nebraska, says "It is fine for us to exchange ideas about the future in all directions. Good ideas, backed with determination, through the years, will be of great benefit." So "What Do You Think?" grows each issue. See what you can do with this next time. **What do we need, in the way of research, to make substantial contributions to beekeeping?** (Pollen reserves, breeding, distribution—huh? Others) Regular contributor payments for what is published. What cannot be used at once may be used later. Send your contribution by March 15.

specialize—others shouldn't. In poor locations, make the bees a sideline or move. It is not always a case of what one would like to do. People having some source of livelihood besides bees make up the great majority of those who are interested in the business.

Edw. M. Klein, Illinois.

— V —

After considerable thought, I have come to the conclusion that diversification is the correct answer for 99 per cent of beekeepers. Beekeeping on a large scale is an exacting occupation, requiring a considerable outlay of capital and a vast fund of specialized knowledge which comes only with long experience. On a moderate scale, beekeeping is ideally suited to be followed in conjunction with other business or professions. It fits in nicely for a teacher with long summer vacations, a second or third shift worker in a factory, anyone who can spare a few hours a day in summer.

It is always better also to start beekeeping in a moderate manner, and increase over a period of years with experience and market developments. Then later if there is sufficient opportunity and profit, beekeeping may be increased to a full time occupation. Then you will be among the select few who make their living exclusively from bees.

Robert S. Collamer,
New York.

— V —

Diversion in one sense means a rest. Many beekeepers use beekeeping as a hobby. The change is restful, especially to the physical, mental and moral being.

There are a few beekeepers who think little of the returns from their bees, but these are scarce. Small beekeepers have the dollar and cents attitude as well as big ones. No hobby, however, could be more interesting from a nature point of view and yet give good returns.

Do the large beekeepers diversify? I do not personally know, as one who works bees all together. Professors that teach beekeeping generally teach related subjects. Extension apiarists have gardens, operate farms, are in the poultry business, etc. Inspectors also have farms, own city property and even play stock markets, grow gladioli, do some hunting. The manager of one of the largest outfits in the South has more chickens, ducks, turkeys, goslings, and the like than on any other farm for miles around him. The commercial man can hardly keep from getting acquainted with flowers. A short visit at the Pellett Gardens at Atlantic,

Iowa, convinced me of the abounding chances for such studies in our educational institutions. It is not uncommon to hear a beekeeper say that he had never known there were so many beautiful flowers. I heard a man eighty years of age, observing camera views of native flowering plants, make such a remark. He had been looking at the flowers all his life, but he had just begun to appreciate their beauty, novelty and science.

I dare say the man who attempts just to keep bees, however work brittle he is or how much stamina he possesses, will not stand up under the long strain. Beekeeping requires a variety of skills, mechanical work, extracting, marketing, and jobs too many to mention. Nevertheless if you go near the living quarters of most beekeepers, you will find some avenue of diversion.

Beekeeping fits in well with many

other occupations. Most of those I know have more interest than they have time. They may give up politics, but they won't give up bees.

W. H. Purser,
South Carolina.

— V —

Beekeeping for honey production alone is so directly affected by weather and other laws of nature that combination with other things is one safe way, except in places where there is a dependable source of nectar over a long period.

I see many who carry on varied occupations and still keep bees with a measure of success. I also see those who operate well as full time specialists. So perhaps the man is the big factor in this discussion.

A. D. Ottinger,
Kansas.

— V —

INCREASED BEESWAX PRODUCTION

UNITED States beekeepers in 1944 continued to respond to the need for beeswax by the armed forces, essential industry, and others. The recently issued report of the Bureau of Agricultural Economics states beeswax production for 1944 was 3,921,000 pounds. This production is 5 per cent above that of 1943 and 17 per cent above the production of 1942. This is particularly significant in view of the fact that the production of honey in 1944 was 188,969,000 pounds, just slightly under that of 1943 and only 6 per cent above the honey crop of 1942.

In the face of poor honey crops it is encouraging to know that beekeepers collected more beeswax and placed it on the market than in previous years. The ten leading states from the standpoint of beeswax production are: California, 378,000 lbs.; Minnesota, 311,000 lbs.; Iowa, 277,000 lbs.; Ohio, 212,000 lbs.; Florida, 196,000 lbs.; New York, 160,000 lbs.; Wisconsin, 160,000 lbs.; Michigan, 155,000 lbs.; Texas, 151,000 lbs., and Pennsylvania 141,000 lbs.

Beeswax is still in good demand and many thousands of pounds are going to war to "wax the way to victory." At least until victory is won in Europe, it is very unlikely that this demand will lessen. In spite of the fact that large quantities of

beeswax have been imported, eastern markets are drained of supplies as fast as they arrive in port. It can be definitely stated that beekeepers, by responding to the call to produce more beeswax and to save more beeswax, have made available many additional thousands of pounds of beeswax needed during this war period.

Aside from the war standpoint, saving beeswax is a healthy thing for the industry. Perhaps due to low prices during depression years, many had adopted a too careless attitude toward collecting and caring for the beeswax which their bees produced and many tons of it were wasted in various ways. Not until the present war demonstrated to many that beeswax, the by-product of honey production, was more essential in the war effort than honey, was this careless attitude of many changed. Bits of beeswax were carefully collected and saved while working the bees; combs which were no longer suitable for brood rearing or other use were culled and rendered into beeswax; super combs were spaced further apart and deeper cappings were cut; and the ravages of combs by the bee moth were prevented.

United States beekeepers are to be congratulated on producing more beeswax in 1944. In 1945 they will continue to produce and save more beeswax, doing their part to "wax the way to victory."

POLLEN SUPPLEMENTS PAY

—WITH A SIDELIGHT ON SULFATHIAZOLE

By L. F. Childers

I constantly scan the Journal to see if anyone has offered experience with pollen supplements. Thus far the big producers have held their fire. Here is my experience. My apiary is small, ninety colonies, but I have dabbled with various supplements for six years and the last three years quite extensively. I had splendid luck with wheat germ meal, but I had the best luck with the supplements advised by the Wisconsin investigators.

Each year I ship in packages from the South and sometimes I have had to install them on foundation, although I avoid this if I can. Bees started this way have a hard struggle and in my locality often fail to make any surplus. Those installed on drawn combs do 100 per cent better and if a pollen supplement is kept constantly in the hive over the cluster, they will add still another 100 per cent.

It is a little foolish, with the knowledge we have now, to install packages without providing this food. This year, for instance, fifty packages purchased and followed through with sugar syrup and care will ruin a \$250 bill—too much investment to be careless. Package bees, if good, are young bees busily engaged in feeding the younger hatching larvae, when they are shaken into the shipping cage. When they arrive, they are not old enough to go to the field for pollen and their chief immediate value is to remain in the cluster to maintain the temperature over the new brood. Of all times, this is the year to pay

especial attention to pollen supplements.

Making this supplement is not a hit-or-miss-slap-dash job. It takes a pile of elbow grease and a lot of know how, as making it right is important. I use sulfathiazole in all of the syrup and all of the supplement fed to my bees, because this seems to help in eradicating disease. If you do not have disease, there is no reason for using it.

For a batch containing one pound of skim milk powder and four pounds of soybean flour, I begin by heating five quarts of water to 180 degrees, then add one and one-half (half gram) tablets, crushed fine, of sulfathiazole. This drug will not dissolve in cold water and will reprecipitate if the water gets cold before the other ingredients are added.

Next add two parts of sugar which will dissolve quickly, then begin with the milk powder, stirring in a little at a time. This stuff is hard to dissolve. It floats and gathers in little pellets, wet on the outside and dry on the inside, which shither and slide and chase your spoon all over the lot, and evade every attempt to crush them. Don't accept anything but perfect solution for otherwise it will appear in the mash as hard lumps with a lot of flour encrusted about them and bees won't eat it and it is a waste of ingredients.

Next finish with the flour and this is real work for it gets stiffer and stiffer as more is added, and between puffs and arm aches you will have painful memory of plowing a long furrow through virgin clay.

When you are done mixing, set the

material aside until the next morning when you will find it necessary to use the fifth quart of your syrup to thin it down to the right consistency. I think the bees take it better when it is mixed just thick enough so that it will not run down between the combs. In a week's time a two pound package will clean up a feeding about the area and thickness of a small hand, and do they like it! They will jump on it like a bunch of hound pups. I don't know how long a bee's memory is, but my memory goes back sixty-seven years to a country kitchen where a beaproned lady on Saturday mixed cookie dough for seven hungry boys. That was the best dough ever and I am telling you this with fingers crossed for I want to warn you that if you expect your bees to get any of this concoction you had better mix it behind closed doors if you have any kids around. Of course, some packages will eat more than others. My observation is, however, that there is a valuable queen in every hive where the bees devour this supplement like a bunch of pigs.

Pity the man with a thousand colonies to feed. Such operators need a bread mixer, and it is quite possible to have such a machine for this purpose. By hand, it is not possible to dry mix milk powder and soybean flour and get it uniform, but with a machine run by a motor for twenty minutes, such a mix would be acceptable. The ideal food is one where

Thirty five colonies started the season of 1944, with disease. Fed sulfathiazole, they ended the season clean, with 4,000 pound of honey.



each ingredient is taken with every bite.

I have also had experience feeding supplements to over-wintered colonies and I believe it pays and pays.

Now let me digress. For years I struggled with foulbrood. Three times it has swept every colony from under me. I stayed with the game, coming back each time with packages. Each time I followed all the rules about boiling and scorching, and each time the demon followed me. I don't think any southern shipper ever sent me a diseased bee. The disease was right under my nose.

Three years ago I learned that sulfathiazole would eliminate foulbrood and the following season I sought to clean up sixty colonies by feeding the drug in a pollen supplement. I found the bees would eat the supplement any time it was given them, even though they did slow down during corn tasseling. I found that treated supplement alone is not enough to cause large colonies to clean up and especially so after the brood has begun to expand for the main honeyflow. The treatment held the disease in check and encouraged me to make another try.

So, when fall came, I set twenty colonies aside that I did not think had disease, and selected fifteen others that plainly showed it, for future experiment, and gassed all the others. Spring came and I prepared a quantity of supplement and on February 21 while the weather was still cold, I went to these fifteen colonies and applied a cake of supplement over the cluster, as recommended by Dr. Farrar and others. These hives were not opened again until March 14.

That day I made an examination,

and I was unprepared for what I found. The winter brood nest in the center of each sphere contained brood in all stages of disease and all of it with a dingy, sickly look. Around that area was a band of new brood under the prettiest capping ever seen and without a single diseased grub in any of it. Here were fifteen colonies not overly strong, all of them with a head start to certain destruction and everyone of them bearing evidence of the ability of sulfathiazole to eliminate the trouble.

I immediately prepared a large quantity of sugar syrup, each ten pound pail bearing a tablet of sulfathiazole and started feeding it to the bees. This feeding was kept up using both treated supplement and syrup until nectar started May 1.

Though the disease had disappeared before that date, I had one queen deposit eggs in cells with the scales of dead brood in them and healthy bees emerged out of them. No disease appeared and none was seen when they were examined last October.

On April 1, fifty packages arrived from the South and were installed on drawn combs and fed treated supplement and syrup. Later I ran into difficulties with the rationing board and was limited in sugar, so I gave each package two combs of honey, made by the bees in the apiary which later came down with disease; but there was never found a single bit of disease in any of these new colonies.

I do not know what sulfathiazole does, but it is evident that when it gets into American foulbrood, the disease goes out. These thirty-five wintered over colonies gave me four thousand pounds of honey this year,

which was a poor year. I attribute the yield, not to the treatment, but to the care in keeping the supplement on the bees and especially the time it was applied, twenty days before natural pollen made its appearance. This started the bees up and kept them going. This early feeding might not work where the flow comes late, but here in the vicinity of St. Louis, it is a life saver.

There is something about dry soybean flour that makes bees crazy for it. If you are one of those who wake up in the morning with a dark brown taste in your mouth and you are all fussy and want to kick the dog around, let me suggest you get a pasteboard box two feet square for forty or fifty hives, cut it down to about four inches deep and place two or three inches of soybean flour in it. Take it to the apiary on the first sunny day of spring, place it in the open where the sun beats down and out of the wind, and hang around a bit.

Within a half hour the bees will be out there eating and filling their pollen baskets, scrambling around. It is down right amusing and it won't be long before your face will crack into a smile that will get bigger as you find yourself leaning up against a tree laughing all the slats loose in your old rusty hide. It is good for the bees and good for the blues. Let me dare you to try it. If the bees don't perform, I will buy Joe Stalin a brand new corn cob pipe. The only objection to this method of feeding is that it is about fifteen days too late. The bees should be stimulated at least two weeks before natural pollen will be available.

Missouri.

— V —

COLLECTION, CARE AND STORAGE OF POLLEN

By CARL E. KILLION

IN the previous article on construction of pollen traps, I stated that we had been removing our traps after they had been on a hive about ten days. This plan is our own preference and gives us extra work in placing traps on new hives this often. I believe, Dr. Farrar prefers to leave them on longer. We find it necessary to remove a trap from some hives because they gather such a small amount of pollen. May we suggest if a colony does not appear to be gathering the maximum amount of pollen the trap should be removed after five or six days and tried out on another colony. There is quite a

variation in the amount of pollen collected from different colonies, this can be noticed when more than one pollen trap is being used at one time. It is also strange how colonies differ in their work on flowers. Not all colonies may be working all clover, basswood, or buckwheat. Some may have nearly all clover pollen and the rest from other sources. The trapping of pollen will I am sure teach us many new things about bee behavior. We have been neglectful in crediting the honey bee with pollination of red clover. During the 1944 season we collected considerable red clover pollen. It might be a good plan in

our bee breeding to consider those colonies showing heavy collections of red clover pollen, or some other unusual pollen. The workers from these colonies may gather considerable nectar from these blossoms. In drought years when the corolla tubes are short this item may not be of great importance, but in normal years when a colony prefers to work red clover and is able to gather both nectar and pollen, we should not let this fact go unnoticed. In our own breeding program we intend to consider these traits in the selection of our breeding queens.

It might be interesting to mention

that Dr. Milum at the University of Illinois made collections from the pollen traps twice daily. One collection made near noon, the second in the evening. I believe this practice was followed for about three months, (I do not know exact period) during the 1944 season. Dr. Milum placed the pollen in small glass bottles and dated each, showing hour and day of collection. I would like to have my good friend Milum make a report on this soon to this journal. What interested me was the great variation in color on many days between the pollen gathered in the morning and that gathered in the evenings. We have pollen in inverted display bottles showing different colors for different months. Milum's samples show as much variation from morning to evening as my samples do from month to month. All of which brings us to the interesting subject of plants that produce pollen in the early part of the day and those preferring the afternoon or evening.

Pollen contains considerable moisture when first collected and should be removed each evening or not longer than every other evening. We empty our pollen trays each day. Pollen will mould very quickly if left for longer periods in the trays. Wax worms will attack pollen very soon in the trays. One may find a wax worm in the pollen even when collected daily. The immediate drying of the pollen is very essential to prevent loss by moulding and to allow storage to prevent destruction by wax moth.

There are many good ways to dry pollen and whichever one the beekeeper can use to best advantage is to be followed. We have not tried all that I am mentioning. In drying our own we have used cloth bottom wooden trays with short legs on the corners. These can either be covered with panes of glass in direct sunlight or in well-aerated rooms. Glass baking dishes with a sheet of glass on top are also excellent if only a small amount is to be dried. We plan on using the solar wax extractor during the coming season. Beekeepers having a fruit or vegetable dehydrator have perhaps one of the best ways of all.

After drying thoroughly the pollen should be stored in air-tight containers to exclude moisture and wax worms. We find that pollen if left open will absorb moisture very easily if there is much dampness. Small amounts of pollen may be stored in glass jars, fruit jars or the five-pound honey jars. Large amounts may be stored in the five gallon honey cans, using care the can is thoroughly dry inside before placing the pollen into it.

All pollen should be fumigated to

prevent loss by wax moth. We prefer to use carbon disulphide to any other. One reason perhaps is because we use it in the fumigation of our comb honey. Owing to it being highly inflammable, it must be handled away from fire of any kind. The liquid is not allowed to come into direct contact with the pollen. A piece of cotton may be placed in a small pan or dish and thoroughly saturated with the liquid. We usually remove the pan and cotton after evaporation and reseal immediately.

Pollen that has been thoroughly dried, fumigated, and stored in good container should last indefinitely.

Illinois.

— V —

NEW COLOR PROCESS

No more will housewives be puzzled by the contents of a can from which the label has been lost. Mrs. Frederick Shirley, a Detroit Institute of Technology graduate, has developed a machine which prints four color label designs, in one process, directly on tin, china, and glass. Maybe our future honey containers will carry a flower garden that won't ever go "into winter."

(From Pathfinder by Fred H. May, Illinois).

— V —

ANISE HYSSOP

I have noticed that you have considerable in the Postscript and in other columns about anise hyssop. One report has it that the hyssop lies on the ground and the stems do not seem strong enough to support the flowers. With us, the outside shoots of a bed of these plants may bend down toward the ground. However, the flowers are borne upright and, inside of the bed, the stem stand straight up. It is possible that the plants in the experience mentioned were planted too far apart or were subject to too much wind, being in a breezy spot. I think next year, the plants, being stronger, they will show up better.

Three years ago I bought a small package of seed from Melvin Pellett. When the ground became fit to work in the spring, I prepared a seed bed about 3 feet square, sowed the seed, pressing the seed in with a smooth piece of board, watered the ground with a fine sprinkler and lightly covered the bed with loose excelsior to keep off too much sun, continuing the watering whenever the bed showed dry.

When the seedlings were about two inches tall, I transplanted three hundred to another bed of three rows, with the plants 12 inches apart, and

nine inches between rows, with the plants in opposite rows staggered. These transplanted seedlings bloomed fine and the bees visited the blossoms from early morning until dark. The old seed bed is a mass of stems with flowers and is expanding, covering more ground with its falling seed. If the planting is kept free of weeds, the first year, the anise hyssop will take care of itself, and no weeds can crowd it or flourish under it. I have not noticed any special flavor in my honey due to hyssop, but since I have 60 colonies of bees, that would hardly be expected.

Frederick Hahman,
Pennsylvania.

— V —

HONEY AND BEESWAX PRODUCTION IN 1944

The Bureau of Agricultural Economics, Washington, D. C., released production figures for honey and beeswax February 3. The total honey production amounted to 188,969,000 lbs. which was just about equal to that of 1943 but 3.2 per cent below 5 year (1939-43) average. The average per colony was 36.2 lbs. of honey, the lowest for the last six years. The report further shows that the number of colonies producing honey were 5,219,000 in comparison to 4,887,000 colonies in 1943. The production of beeswax amounted to 3,921,000 lbs. which is 5 per cent above that of 1943 and 17 per cent above the quantity produced in 1942.

Practically all sections of the United States had a lower average per colony than in 1943 except in the South Atlantic and South Central areas with Florida leading with an average production which was 39 per cent above the five year average. The heavy producing states of California, Minnesota, Iowa, Ohio, New York, Wisconsin, and Michigan produced 77,962,000 lbs.—83.4 per cent of their five year average. It is estimated that about 15 per cent of the 1944 crop remained on hand in mid-December, or a total of 26,000,000 pounds.

Combined wholesale and retail sales of all honey shows an average price of 17.7 cents per pound in 1944 as compared with 16.8 cents per pound in 1943. It is obvious that the higher figure is accounted for by the fact that more honey was sold at retail by beekeepers and that less honey was sold in bulk at wholesale.

Interested parties are urged to write to the United States Department of Agriculture, Bureau of Agricultural Economics, Washington 25, D. C., for a copy of this report entitled "Honey and Beeswax Production—1944."

The Production of Queen Bees

THE ROLE OF THE DRONE

By E. C. Bessonnet

THERE seems to be little information of value to the breeder about the drone. It is known that the queen has thirty-two chromosomes, while the drone has only sixteen due to his being a product of a parthenogenetic parent. There are indications that both the drone and the queen transmit an equal number of genes, thus the importance of providing the very best drones for matings is obvious.

When daughters of good queens fail to show the same high quality of their mothers, we can blame the drone that mated with the mother queen for the trouble. The drone that mates with her daughter will affect the future progeny of her generation.

A complicated relationship exists between the worker bee, the drone, and the queen. The drone by nature inherits his characters from his mother, but due to the phenomenon of parthenogenesis he does not inherit characters from the drone that mated with his mother. This fact brings out the big question mark in bee breeding. We have an unknown factor not easy to deal with.

The characters evident in the worker bees of a colony have been transmitted by the queen and the drone that mated with her. In contrast with the drone, the worker bees inherit their characters from both mother and father which shows that the worker bees and the drones from the same colony are half brothers and sisters. The whole genetical complex

presents a difficult problem, as we must base our decisions of selection on the thought that we have no means of analyzing the drone qualities of the parent colony.

The queen characters can be studied and an opinion formed about her value, but the characters of the drone are questionable. The drone inherits an equal number of characters from his mother and this helps in selection. However, the other half is unknown and this imposes difficulty in selection. In dealing with the drone, it is necessary to select over a period of years to establish a pedigree. This approach will ultimately assure drones of good quality. The high producing colony does not necessarily have drones of good quality and an estimate of other factors can eliminate such colonies as a source of drones for matings.

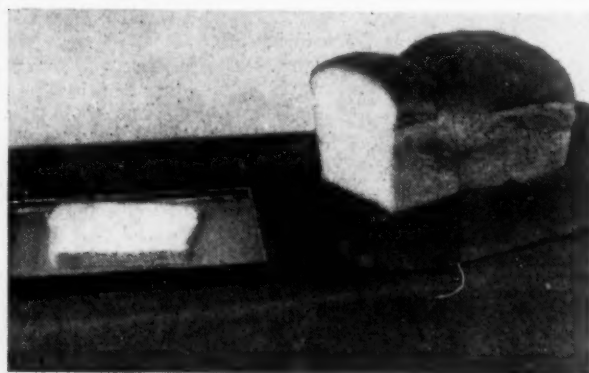
Worker bees are undeveloped females that inherit characters from both the mother and the father. Queens are produced from worker larvae so we should know what to expect in the way of their transmitted characters. The quality of the mother is already established, but the quality of the father is unknown and has its effect on the value of progeny of the daughter. Quality in daughter progeny will depend as much on the type of drone that mated with the mother. There is only one way to determine the qualities of the daughters and that is by testing a group of them to determine the characters which they inherit. If the

mother mated with a good drone, you will have good daughters, showing uniform characteristics, but if the drones were inferior, the result will be daughters that vary in their characteristics. Considerable variation will exist in the quality of the queens according to the quality of the drones. Our thoughts and plans should be based on the unknown drone factor and every effort made to improve the source of drones so that constant improvements can be made in the stock.

Many years of painstaking effort is necessary to obtain results, but a sound practical plan will be effective over a period of years. Such a plan should be the objective of every queen producer.

In the average colony which shows uniformity of color pattern, we have indications that the father of the worker bees came from a colony having uniform color pattern. Where little attention is given to selection of color pattern, wide variations will exist and show that the bees are hybrids. Other factors will vary just as much as the color pattern, and each factor should be considered essential to selection. Heterogeneous strains vary in disposition and in other characters. The worker bee enters the picture as an integral part of breeding, since the earmarks of good stock are traced in a large measure to the characters of the worker.

Dr. Otto Mackensen, of the Southern States Bee Culture Laboratory, has exploded the theory that worker bees remove fertile eggs from other colonies to produce a fully developed queen. It has been shown that about three per cent of the eggs laid by the worker bee, which are supposed to be infertile, will produce a fully developed queen, capable of heading a normal colony. This was proved by grafting larvae from a laying worker colony. Some strains have shown a greater propensity than others to pro-



HONEY OATMEAL BREAD

2 cups milk, scalded 1 cup oatmeal
Pour scalded milk over oatmeal, cover and let stand till luke warm.

Dissolve two cakes yeast in two tablespoons of warm water. Add 1 tablespoon sugar. Add this to oatmeal, add milk mixture when it is luke warm. Add enough flour to make a soft sponge, and let stand till light, about 1 hour.

Cream $\frac{1}{4}$ cup butter or lard 1 egg (beaten)
 $\frac{1}{2}$ cup honey 2 teaspoons salt.

When batter is light, add creamed mixture to it. Add enough white flour then so as to knead into a smooth ball. Place in a greased bowl, cover and let stand till light. When light, form into two loaves, place in greased bread pans, and let stand till light. Bake in oven, 425 degrees for fifteen minutes, then lower heat to 375 degrees and bake for forty-five more minutes.

duce fertile worker eggs. How this is brought about in the worker bee is not clear, but we assume that nature thus provides in some measure for perpetuation. Since there is little likelihood that the worker is capable of mating, we can give no intelligent answer to this enigma.

However, this complex phenomenon gives us some food for thought as we wonder what the genetical make-up would be in the queen which was developed from larvae hatched from eggs layed by worker bees. We can draw one conclusion about this since it is obvious that the queen would have no father. This interesting complex places such queens in the same category as the drone, as far as parentage is concerned. There would be inheritance from the side of the worker bee and as no father exists, such queens would have sixteen chromosomes instead of thirty-two. This complex offers great opportunities for research so that more data will be available for efforts along this line.

Thus we have the queen capable of producing infertile eggs which develop into drones and worker bees capable of producing eggs which develop into normal queens. Our research field widens instead of shrinking, as we broaden the scope of work. When we find a solution to one problem, another one enters the picture to interest further endeavor in a field that needs the services of many investigators.

— V —

LONG WINTER

This has been a long cold snowy winter and hard on bees. Thermometer got up to 50 on February 10, the first time since November 23, and the bees had a good flight which they needed. However, they have stood the winter much better than expected.

Fred H. May, Illinois.

WHY WASTE WAX

By Elmer G. Carr

IF there were ever a good excuse for wasting wax, surely it does not now exist. Still beekeepers continue the practice.

Permitting moths to damage combs and allowing bits of wax to lie about are not here referred to, although these two practices are a fruitful source of waste.

How many hundred pounds of wax are put into a slot in the top bar of brood frames where the wax is not used and where under modern beekeeping practices, it serves no useful purpose?

No doubt the question will be asked, "How is the foundation to be held in the frame if there is no top bar slot and wedge?" Simple enough. Surely no one would consider using foundation without horizontal wires in the frame, even though the foundation has vertical wires imbedded in it. Therefore it is only necessary to place the top holes in the end bars in such position that the top wire will be one quarter inch below the top bar. When electrically imbedded the wire holds the foundation sufficiently near the top bar for all practical purposes. Since there is but one quarter inch of foundation above the top wire, it will not fall over.

Then again, if a colony is really in need of a super, it will be sufficiently populous that work on the foundation will start at the top where it will be first fastened.

While we are about it, we might as well increase the vertical depth of the comb in a frame by one row of cells by reducing the thickness of the top bar to five eights of an inch. This is far from a new idea although it seems not to have been adopted to any considerable extent. It was used with

entire satisfaction by S. T. Pettit as well as by his son, Morley, from whom the idea came to me.

After all, the top bar slot is a hang-over from the days when only a starter of foundation was used in brood frames. About the only use for it at present time is a parking place for more wax moth larvae and to make it more difficult to clean up a frame for refitting.

With the great need for beeswax at present, melting down faulty combs is strongly recommended in some quarters. There may be combs which should be eliminated in this manner. However, if the beekeeper is to produce the amount of honey which is being urged, he will need to replace such combs as are melted down by using foundation so that there probably would be little if any net gain in the amount of available beeswax and none in the honey crop. It would be far better to have the faulty combs, those with patches of undesirable cells, repaired by the bees in one of three ways. (1) Cut out the faulty cells and give the comb to a nucleus with a young queen; (2) patch the cut out place with a piece of foundation, or (3) patch the place with a piece of good comb. The preference is in the order given.

Under the first two plans there must be sufficient incoming feed, either natural or artificial, to enable the bees to build comb.

Having combs repaired by the bees involves less labor for the beekeeper, which is an important factor under present conditions.

The nuclei can be made up advantageously from colonies making swarm preparations.

—New Jersey.

ORANGE HONEY MUFFINS

- | | |
|--------------------------------|--------------------------------|
| 2 cups sifted flour | 1 egg, beaten |
| 3 teaspoons baking powder | $\frac{1}{2}$ cup orange juice |
| $\frac{1}{2}$ teaspoon salt | $\frac{1}{2}$ cup milk |
| $\frac{1}{4}$ cup honey | 3 tablespoons melted fat |
| 2 teaspoons grated orange rind | |

Combine dry ingredients and sift together. Add orange rind and egg to orange juice and milk. Add liquids to dry ingredients all at once. Add melted fat. Stir until blended. Batter should be lumpy. Fill greased muffin pans two-thirds full and bake at 400 degrees for twenty-five minutes.

Makes one dozen muffins.

—Mary Meade in Chicago Sunday Tribune.



CIDRAO, A PERENNIAL SOURCE OF HONEY IN TROPICAL AMERICA

By Gonzalo S. Ordetx

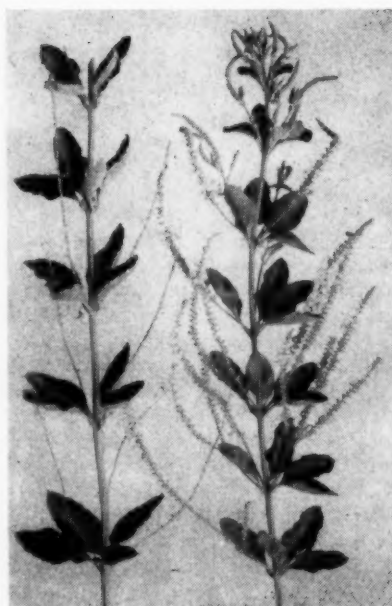
BEESKEEPERS who enjoy botany as a hobby and who wish a honey plant that yields nectar through the year like myself, find it difficult to conduct a thorough observation in the temperate zone where the winter prevents the bees from working. In tropical countries, bees enjoy a year-round, mild temperature which permits them to fly without rest and they are disturbed only by heavy rains. Nevertheless, even there, there is no honey plant capable of keeping a colony active during all seasons of the year to equal cidrao.

The pink vine or coralillo rosado (*Antigonon leptopus*), a Mexican vine well known in the south of the United States, is planted extensively for ornament and is the most approximate plant to cidrao.

In a number of years of close study of tropical flora, we have always searched anxiously for a species that would be apparently Utopian, as far as honey is concerned. The first time we saw cidrao, a shrub native of Brazil, we did not realize that we had found the desired plant. We only thought of it as a good honey source. But months went by with careful observations, we found flowers and bees on them daily. One year round tropical plant had been found.

The cidrao is a shrub from six to nine feet high with small coriaceous, elliptic-oblong leaves. The flowers are small, white, racemes somewhat crowded two to three inches long, with an odor like vanilla. It grows wild on the rocky soils of Brazil (Minas Geraes and Rio Grande do Sul), Peru, Paraguay, Uruguay and north of Argentina. Its flowers and leaves are used to some extent in domestic medicine as a remedy for colds, stomach disorders and similar afflictions. For its delicate scent, it could be used for perfumes. The local names used in Argentina are "azahar del campo," "cedrin," and "pichinilla." In Uruguay: "cedron," "nina caspi," and "reseda del campo." In Cuba it is called "lipia."

This species was introduced from Brazil some years ago by the Cuban botanist, Dr. J. T. Roig as *Lippia lycioides*, Steud. It soon attracted the attention of beekeepers. After studying more intensively, this plant was somewhat disappointing because *Lippia lycioides*, was synonymous to *Lippia ligustrina*. The species that we found was the well-known honey plant of Texas and Mexico, "white brush,"—and what a failure.



Flowering branch of Cidrao, *Lippia virgata*.



Douglas Glen Ordetx, four years old, by a Cidrao of the same age.

For same time we gave no attention to the cidrao. However, its perennial blooming and constant visitation by bees gave us new interest. Soon we found characteristics not found on the white brush. Our doubt gave us the notion that it could be a different species. We visited Dr. Roig, who assured us that he personally brought the plant from Rio Janeiro, where it was taken for "*Lippia lycioides*." It also appears as that in the botanies of Brazil. We were still doubtful and Dr. Roig advised us to send a specimen to Washington which we did. Dr. S. F. Blake, of the Bureau of Plant Industry, identified it as *Lippia virgata*, Steud, a species very similar to the flowers of white brush, and for this reason, the two are often confused.

As a honey plant, the cidrao is

superior to the white brush because of its perennial blooming. It is one of the most valuable species to the beekeeper in the parts of South America where it is abundant, and it is an ideal plant to approach that beekeeper's dream of a perennial nectar source.

Havana, Cuba.

— V —

LOCATION DIFFERENCES

"Howdy" (Howard Potter) in "The Beekeepers Magazine" for November, reports the figures for colony yield in different yards, and says, "When some colonies in a yard fail to make a good showing, poor beekeeping is responsible. When some yards average only a third as much as other yards, it must be location. When honey plants are scarce, a few fields of wild patches make a big difference. If this were not so, we would not expect much year to year variation in the relative value of a location. A poor location would always be at the bottom of the list and a good one always at the top. But in practice, this is not true.

"It is true too that in a poor season, it takes few bees to overstock a location. In the good old days when there was more nectar than a hundred colonies in a place could take care of, we didn't notice the difference."

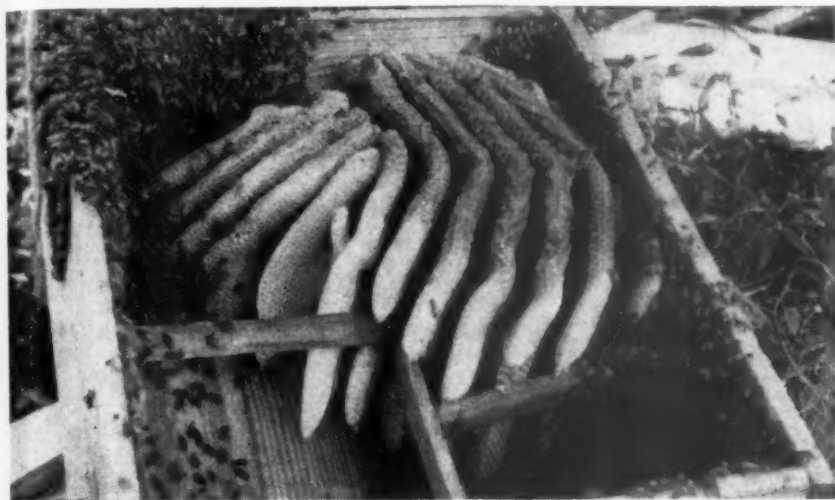
— V —

THESE YOUNG LIVES

N. C. Jenson, of Macon, Mississippi, who recently lost his son, Nels, in a flight over the hump in India, sends us a copy of the "Macon Beacon" which tells of the loss of another local boy in Macon, Lt. L. A. Barnhill, a fine looking youngster, intelligent, a high order of human being. It brings the thought that most of our losses by death in this conflict are among this kind of young men, the kind we really need for the future. It is a sad travesty on human association that such periodical holocausts must occur to speed humanity on its path.

We hope that at least this time we will learn enough to guard against the future, but if the past is any measure, it is questionable.

The Answer



WHAT IS THE BEST WAY TO TRANSFER BEES AND WHEN IS THE BEST TIME?

THE first step in transferring is to be sure there is no disease in the colonies that are to be transferred. Next, provide new hives and equipment. Smoke the old hive to quiet the bees. Remove the hive from its stand and place the new hive with nine frames of foundation and one comb of brood on the original stand. Turn the old hive upside down and drive the bees down with smoke and cut off four or five inches of the old comb. Place an inner cover on the old upside down hive and begin firm, but not too hard drumming. When a good size lot of bees has gathered on the underside of the cover, dump them in front of the entrance of the new hive, and watch for the queen. Repeat until all bees have been drummed out of the old hive and the queen has gone into the new one.

The old hive still upside down is placed on the new hive with an escape board between. All openings are tightly closed except through the escape. Young bees, as they emerge, will work down into the new hive below and at the end of twenty-one days there will be nothing left but combs which can be melted up. If more room is needed below for the old colony before all brood emerges, the escape board and the old hive may be lifted up and a super put on the new hive. This method takes time, but it eliminates robbing and saves mess.

Bees may be transferred almost any time during the spring and early

summer, particularly during fruit-bloom. There are fewer bees and a longer chance to build up.

Oren R. Elmore,
Iowa.

— V —

To transfer log gums or plank gums, set two of them about a foot apart about the first of March (Alabama) and let them set that way until the beginning of the honeyflow which is about the first of May here. Then put a hive with foundation in place of one of the gums, knock the lid off of one of the gums, turn the gum upside down on top of the frame hive and, with plenty of smoke, force the bees down. Then break the old hive open and brush the remaining bees off the combs. Then do the same with the other gum.

Take the old combs into a suitable place and cut the best of them to fit into shallow super frames, getting as much brood as possible. Take wire for clamps to hold the combs together. Put the shallow supers under the new hive. The colony will build fine brood combs on foundation, and since there are two colonies together, they will make a good crop and the remaining combs can be rendered.

N. P. Watts,
Alabama.

— V —

From box hives: set the frame hive on top of the box hive, with comb or foundation, just before a honeyflow. When the bees and queen are in the

frame hive, place an excluder between. Then in about three weeks, after the bees have all emerged, the box hive can be taken away and the combs melted.

Urban J. Ashbacher,
Iowa.

— V —

I prefer to cut out the combs and tie the worker brood into frames. The best time is the beginning of the main honeyflow. If the colony is in a suitable body, cut the combs from the four sides, invert the hive, and push all the combs out together. Then lay single strands of ordinary store string at right angles to each other on a flat surface so that they will tie around a frame placed over them. Now cut out the combs and fit the pieces of worker brood into the frames tying them in. Place the frames together in the new hive to begin the new brood nest. Fill the hive with combs and foundation. Throw away the drone comb and undesirable combs and save the honey for home use. The queen should be induced to enter a second story placed above. When the queen is up, raise the bottom story above an excluder so the combs can be freed of brood, removed and melted. This method saves the bees, brood and the honey.

Ivan Whiting,
Illinois.

— V —

Transfer on a nice warm day near noon in fruit blossom time when the bees are working. Take your new hive with full sheets of foundation and set it under the old stand with part or all of the bottom off. Use a carbolic cloth on top of the old colony and put a metal cover over, and soon the sunshine will force the bees to run down into the new hive, and the old one then can be removed, as the transfer is complete.

John E. Brown,
Indiana.

— V —

Take the top off of the hive to be transferred and the bottom off of the new hive. Set the new hive on top of the "transfer," and drum what bees you can into it. When most of the bees are in the new hive, turn the old one upside down and jar it on the ground. Generally, the queen will be out or will run into the new one. Leave enough bees in the old one to take care of the brood and set it close to the new hive and leave it there until the next visit, and on this and subsequent visits, shift the old hive to the opposite sides of the new one until it is denuded of bees so that the remainder can be dumped in front of the new one and the old combs melted up. Do this in late (Please turn to page 92)

ORGANIZED EFFORT

ACTION at Chicago by the Federation of State Beekeepers' Associations is an encouraging step. Provision was made to establish an office with a full time secretary to look after the interests of the honey producers. The time has gone when volunteer officials can be expected to meet all the pressing demands that arise. Every day brings some problem for immediate attention. The inequalities of freight rates, variations in regulations for inspection when bees are carried across state borders, destruction of bees by poison, price ceiling and priorities for materials are examples of the perplexing questions that arise.

If we are to have a prosperous industry it is essential that some active agency be prepared to deal with such problems as they are presented. Matters of interest to the entire industry should be handled at the expense of the industry rather than by some individual who is willing to give freely of his time for the general good.

The success of this effort will depend upon the men in charge and the amount of money they have with which to work. We have confidence in the officers selected and indications are that sufficient money will be raised to support the office. Every man who lives from the sale of bees or honey has a stake in the outcome and should be willing to contribute to its support.

— V —

BEES FOR POLLINATION

A new type of beekeeping is developing and in some areas it bids fair to equal honey production in importance. The business of putting bees in orchards and gardens at time of blossoming to provide for pollination offers attraction for the man who is willing to move his bees frequently.

In a few localities outfits numbering several hundred colonies have been turned primarily for service in pollination. Since the different fruits blossom at varying times it is possible to use the same bees in several fruit plantations. Plums and pears bloom before apples, and raspberries after all these. Cucumbers, melons, and other cucurbits bloom much later thus extending the season.

Much expense is involved to cover the numerous moves and care must

be taken to get the bees away before poisonous sprays are applied. This kind of beekeeping requires a different management than the production of either honey or live bees and must depend mostly upon the rental paid by the fruit grower or gardener. The demand is increasing and seed growers are showing an interest along with the others. There is every indication that this kind of beekeeping will become much more general since there is a constantly increasing number of customers who require the services of the bees. Usually it is more satisfactory to rent the bees from a specialist than for the one who needs them for only a few days to burden himself with their care.

— V —

WARTIME SHORT CUTS

WARTIME necessity is teaching many a large scale honey producer new methods. The labor shortage has compelled abandonment of some manipulations formerly followed with religious regularity. Short cuts have become the rule in most apiaries and in many cases it has been found that less manipulation is necessary than was formerly considered essential.

Some beekeepers have given careful consideration to the jobs that must be done and those which can be postponed. Others have given less attention to the bees simply because there has not been time and man power sufficient to get all the way around. Those who have met the essentials of providing ample room and ample stores in advance of urgent need have often been surprised to find that a crop can be harvested with far less labor than they had previously thought possible.

— V —

CONTROLLED MATING

IN all the discussions of controlled mating the work of P. O. Borg, Torring, Denmark, seems to have been completely overlooked. He selected his drones at the entrance of the hive at time of taking flight and thus secured those suited for his purpose. The following is quoted from an article in British Bee Journal (March 29, 1888, page 168), and describes a technique similar to that

used by Quinn and Laidlow in this country many years later:

"He seizes the maiden queen by her wings with the thumb and forefinger of the left hand. In this situation the queen will bend her abdomen downwards toward the thorax. Then he seizes with the right thumb and forefinger the drone on both sides of the thorax, and cautiously pressing the abdomen, the desired effect is produced and fecundation may be accomplished. Mr. Borg tells that the queen when released will disengage herself in some fifteen minutes. He has in this manner artificially fecundated six queens in the season of 1886, and four in the last season, and in all ten cases with excellent results.

— V —

IMPROVING LOCATIONS

THE reduction in acreage of sweet clover over a wide area has made it necessary for many large operators to seek new locations for a portion of their bees. With so many seeking better bee pasture it is no longer easy to find unoccupied territory of large extent.

Before we go to the expense of extensive travel or long moves it is well to make a careful survey of present locations. In many cases good crops can still be harvested by reducing the number of colonies in each apiary to conform to the available pasture. New locations can often be found for small apiaries not far distant by a careful search.

The Farm Bureau, the Triple A, and similar agencies in close touch with the farming community should be of help in finding the farms on which the clovers are still grown. It might even be more profitable to unite some colonies and reduce the total numbers of bees rather than risk the cost of an expensive move to a new and untried location.

Too little attention has been given to a study of bee pasture and in most cases the beekeeper simply hazards the guess that location will be good without much information as to acreage of honey plants within reach. Few are so fully informed as not to be able to make a substantial improvement in the situation simply by changing the location of a portion of their bees within the limits of the territory now occupied. Be sure you know your home territory before looking for greener fields farther away.

WHERE THE HONEY FLOWS

(Cover Picture from Burgert Bros., Tampa, Florida.)

Orange

THE expansion of the citrus industry in recent years has been one of the spectacular changes in modern agriculture. Only a few years ago oranges were a rarity with an average family and only appeared at Christmas as a special treat. Now they are a staple on the breakfast table in millions of homes. This change is the result of clever publicity on the part of the growers who recognized the value of well placed advertising.

The planting of thousands of acres of citrus to supply this constantly increasing demand has provided good bee pasture in Texas, Florida, Arizona and especially California. While there is some bloom on the orange trees over a rather long period the principal honeyflow comes in late March and April. At that early season the bees are weak in the average apiary and too often this fine flow is used to build up colony strength rather than the storing of a big crop of honey. The expert beekeeper, however, who is able to get his bees ready for the harvest in time is likely to secure a substantial crop in the orange districts. Yields all the way from a mere dribble to four supers per colony from orange have been reported.

Orange is very susceptible to weather conditions and in some areas surplus honey is seldom secured while in others it yields four years in five. In California near the coast little nectar is gathered apparently because of the fogs which so often prevail in that area. In some interior valleys failures are rare and large numbers of bees brought in for the orange flow and moved again to other locations for the rest of the year.

Although orange honey has a decided flavor it is generally regarded as of high quality and demands a premium in the market. The body is heavy and the color is light. It seems probable that orange honey has profited by the advertising for the fruit and the public has come to expect a superior product because of the favor with which the fruit is regarded.

Not all orange honey comes from California but less is heard of it in other states. Average yields as high as 75 pounds per colony are reported from Florida with individual colonies in Dadant hives giving as high as 175 pounds. Indications are that with strong colonies of bees high yields would be common wherever the tree is grown extensively away from the influence of ocean fogs.



IN THE AUSTRALIAN DESERT

This apiary of six hundred colonies was located in the desert, near Dimboola, Victoria. There were two thousand other colonies within a mile of this yard, many colonies in a small area. When the sand is dry much difficulty is experienced getting a truck through at all and this is why the apiaries are not further apart. We

have trouble even when the sand is wet. The bees were there to winter on the Banksia, a shrub growing to a height of about eight or ten feet. It gives a good flow of poor grade honey under favorable conditions but bees do well on it through winter.

Selwyn Shalders,
Victoria, Australia.



DELIVERING

F. E. Leaders, Deloit, Iowa, loads this truck with his own honey and delivers the crop in Texas. How's that! Many producers do it. Smaller ones cannot but the larger com-

mercial outfits can do it at a profit, since they can trade like a Yankee. They haul bees too, often making pay loads both ways, even with fruit or produce.

SULFA DRUGS

L. Haseman and L. F. Childers, in Bulletin 282, Missouri Agricultural experiment Station, (Control of American Foulbrood with Sulfa Drugs) tell of experiments with sulfanilamide, sulfathiazole, and sulfa diazine, to aid colonies with American foulbrood to recover from the

— V —
disease. Their most successful trials were with medicated syrup, fed consistently and over long periods. The sulfathiazole seemed most suitable and proved harmless to either the bees or the brood. In its presence the disease bacillia will not develop. Final results are not yet determined. The results of the experiment, in detail, are given in the bulletin. (Also see page 83.)

How to Do It

SHIPPING NOTICE

Prior to package shipping time, I notify my station agent that the packages are coming and ask him to telephone me instead of sending. This saves a day's delay in getting the bees and often saves some bees.

W. E. Wedemeyer,
Iowa.

— V —

HANDY HAY HOOK

When moving bees, a hook like those used to handle baled hay is handy. In moving a hive a few inches or a foot or two in a yard, catch the bottom board with the hook and steady the hive with the other hand and pull the hive into place. In moving a yard to a new place, a hook used by each operator at central positions on each side of the hive with the hook under the bottom board or ends prevents pinched fingers. Steady the hive with the free hands. With the hook, a hive that has sat in a location long enough to become imbedded in dirt can be lifted with the minimum of jarring. The better type of hook has a broad space between the hook and the handle bar, and the hook is nearly parallel to the handle rather than at an angle outward as some hooks are made.

V. E. Adams,
Colorado.

— V —

MARKING QUEENS

I find it is best to mark queens with colored paint rather than to clip them. Different colors will show the age and year. Just buy acetone at the drug store and dissolve celluloid in it to make the paint. The celluloid used in tooth brushes is all right. Use red, green or yellow. This paint dries quickly and will not cause super-se-dure.

Harry T. Starnes,
Indiana.

— V —

CUTTING OUT THE TOP OF FIVE GALLON CANS

To cut the top of a five gallon can to make a beeswax mold, using shears or a knife, is a hard, slow, dangerous job. It is fast and easy to do if the top seam of the can is held against an emery wheel, moving the can along so as not to grind through except in spots. The top will peel out leaving that part of the seam that is on the sides. Rub around with a file and you have a smooth re-

inforced top. Remember if you grind too deeply, this support will come off.

C. A. Bird,
Iowa.

— V —

ROBBING ON OPEN COMBS

Don't start robbing by placing combs of open honey into a colony of bees or under a colony of bees at any time except after sunset. Twice I have started an entire yard into a frenzy of robbing this way. Remember, after sunset, if at all. Watch out also for the spread of American foulbrood when you place combs of honey from one hive into another hive.

J. H. Sturdevant,
Nebraska.

— V —

GOOD COMBS

To secure good brood combs, I often wedge my frames of foundation tightly in the hive, using wooden strips to tighten the frames together. Then I invert the super of foundation over a strong colony during the honeyflow. In a short time, the foundation will be fastened to the bottom bars, after which I remove the wedges and place the super in its correct position. This method gives perfectly fastened combs all around the frame.

Harry T. Starnes,
Indiana.

— V —

ENTRANCE BLOCKS

I find many uses for the wedge shaped entrance blocks which used to come with new hives. I use them for adjusting the size of the entrance. I find them handy for wedging and leveling hives. I use them lengthwise with the bottom board so they are not in the way. I make them myself out of scrap boards.

Ed. Swenson,
Minnesota.

— V —

SUBSTITUTE STAPLES

Hive staples have been none too plentiful of late. I save the wire handles from old bushel peach baskets and use these to make staples for hives. The wire is very stiff, but may be fashioned into a standard size staple, using a pair of pliers to do the work. They are very handy when moving hives.

Harry T. Starnes,
Indiana.

THE ANSWER

(Continued from page 89)

spring, so you have all summer for the bees to get entirely out.

P. E. Braun,
Nebraska.

— V —

In central western Indiana, the best time to transfer is about three weeks before the main flow, from the tenth to fifteenth of May, since then there is a light flow here and the weather is warm.

Remove the top of the box containing the colony to be transferred, and set a hive body of combs or foundation on top. In three or four weeks usually the queen is in the standard hive body and it can be placed on a regular bottom board with an excluder over it, and the box hive over the excluder until its brood has emerged, after which the bees may be shaken out and the honey and wax may be salvaged. A good time to transfer is also during early fruit bloom where there is less weight to handle and fewer bees to contend with. I believe that transferring should be done so as to disturb the old colony as little as possible. I do not like severe smoking, brushing broken combs, mashed brood and bees, shaking, and rough methods. I have used the carbolic acid screen with success.

Harry Starnes,
Indiana.

— V —

The early part of the season is best because there will be few bees and little honey. Transfer in warm weather and if there is a slight mist or rain, there will be little trouble with robbing. Prepare a full set of old combs in a standard body, turn the colony to be transferred side down and smoke the bees over off the brood nest, break out two or more combs with mixed brood and honey and fit them into frames. Place these in the standard hive. Then turn the old colony upright and place the standard hive in top with pieces of comb to make a complete contact between the lower combs and the upper. Close all openings with mud, wood or whatever is convenient, and leave the colony alone for two days. Then any forenoon carefully lift off the top body and slip a queen excluder under it. Then make a careful examination to find the queen on the brood in the top and if she is there, close quietly and let the bees alone for several days. The bees will soon be-

gin to carry honey from the lower body above for use.

The brood below emerges until the old body is empty. Then the combs can be rendered. Sometimes when a honeyflow is on, queen cells may be built below the old hive and result in swarming. This may make it necessary occasionally to destroy cells.

Sometimes I use a variation. When the queen is above and the bees are feeding the brood, I insert two queen excluders with a frame between them to form a space and let the combination run as it is. If the bees below in the old colony develop a young queen, let it go as a two queen colony to the end of the season. If storage space is given above the top, honey will almost always be found there, while the lower or old body will be empty and can be disposed of.

J. H. Sturdevant,
Nebraska.

— V —

I take it Mr. Kinard has in mind the transferring of bees from box or gum hives. It is absolutely necessary that nectar is available so that there will be no robbing, early in the season if possible, although it may be done any time up to the point when it is no longer possible for newly established colonies to gather sufficient stores for winter.

Place the hive with the colony to be transferred, without bottom, on top of the new hive which should contain a comb or two of pollen and honey. Smoke the colony until the bees have moved down two or three inches below the edges of the comb in the new hive. Then use a carbolic acid board over the box to finish. Set the old hive now on the ground back of the new one and cut out any desirable worker brood to fit in standard frames and put in the new hive. Destroy the old hive and melt up the useless combs, and as soon as the brood nest is established in the new hive, take out these old combs which have been cut from the box hive, adding additional combs or foundation at the outside of the brood. These old combs can be later rendered.

T. Edwards,
South Dakota.

— V —

QUESTION FOR NEXT MONTH

How do you feed bees and at what times? From J. H. Sturdevant, Nebraska. Answer, please, by the fifteenth.

American Honey Institute

Commercial State Bank Building, Madison 3, Wisconsin

EASTER Sunday Morning, April 1, ushers in "Honey for Breakfast Week." You will want some of the attractive new folders entitled "Honey Starts the Day Right" to distribute to stores and customers. This is one of the most artistic folders that has been put out by the Institute. It should help put honey on every breakfast table. Send for a copy if you have not received one. The folder can be used the year round.

— V —

The February 4 issue of the New York Times carried an article in the Magazine Section entitled "Honey Replacing Sugar" by Jane Holt. Under Shopping Information we find:

"American Honey Institute, Madison 3, Wisconsin, issues a booklet 'Old Favorite Honey Recipes' which is sent postpaid for 10 cents."

Because of this article the Institute is receiving many, many requests for the book.

— V —

Did you hear the recipe for honey butter given on the Aunt Jemima (Pancakes) Blue Network Show on February 15, 19, and 26.

— V —

The revised and enlarged edition of "Old Favorite Honey Recipes" is now ready. For a limited time only the Institute will offer the book, below cost, in quantities of 100 or more at \$7.00 per hundred. Honey will become a staple product in every home where this book is to be found.

— V —

Have you received a copy of the booklet, "Honey"? If not send a request for one today. We shall include but a few extracts from letters in regard to this booklet.

OHIO—

Surely in your latest booklet, "Honey", we now have a dignified, authoritative presentation that our product has long needed. I saw the proofs but the finished book is much nicer and more convincing than I thought it could be. You deserve long and vigorous applause.

At Greensboro you told me of the acceptance by A. M. A., but even then I did not realize how much this would mean nor how impressive that seal would look.

We shall be sending an order in shortly. Beekeepers should be quick to see the value of your good efforts. In behalf of all of them, Thank you.

IOWA—

I am just in receipt of your new booklet entitled "Honey". Had a chance to read this rather carefully and feel it is the best thing which the Institute has yet published. Some place I read of a price on this publication. However, if you find time send me a memo on this.

I want to refer to this booklet in the March issue of our Association monthly publication. The February issue has already gone to press.

CALIFORNIA—

We have received a copy of the new booklet on HONEY. This is something we have needed for a long time, it's really tops, and a mighty fine job. Please send me 100 copies, and bill me for same.

Congratulations for doing an outstanding piece of work for our industry.

FROM THE WIFE OF A DENTIST

Your booklet on Honey is excellently compiled. We are finding its information very useful. Will you kindly send several copies for patients to read. My husband discourages the use of refined sugar because of its effect on gums and teeth. Honey is a beneficial substitute. We use it at home altogether. Thank you.

— V —

Did you see the advertisement for Aunt Jemima Buckwheats and Orange Honey—"The Winter Sport That All Enjoy—Buckwheats!" (In the mid-west it appeared in the Chicago Herald-American Comic Weekly of January 14 and in the Chicago Daily Tribune of January 21).

This same advertisement in colors appeared in the Jan. 27 issue of the Saturday Evening Post on Page 72 and covered a half page.

Just in case you missed it, here's the recipe for the Orange Honey:

1 cup honey
½ cup orange juice
1 teaspoon rind, grated
¼ teaspoon salt

Combine and serve hot or cold. And in Aunt Jemima's own words, it too is "easy as 1-2-3 to fix."

And don't overlook "Uncle Elmer's" admonition—"Shut that window! You're slowing up the honey!"

All Around the Bee Yard

I have just come back from New Jersey where I was with the New Jersey Association at their annual meeting in Trenton. Years ago, I lived there. Grandfather had a market garden on a farm near New Brunswick in a small town, Morganville, between Matawan and Freehold. An old beekeeper, by the name of Linas, used to bring bees each year to grandfather's greenhouse where they were installed in openshutter windows so that they might fly either outdoors or inside the house where cucumbers were raised for the New York market. I was then a boy about nine years old.

E. G. Carr, former inspector, now queen breeder, and New Jersey's beloved leader, still furnishes bees for cucumber pollination to greenhouses in Morganville still operated by grandfather's local friends and competitor, the Beckers.

New Jersey is a great pollination state. One good beekeeper, Milton Stricker operates hundreds of colonies for the pollination of apple, peach, pear, cherry, cranberries and blueberries and his main job is going from orchard to orchard through the season. It makes quite a prosperous business. Bees are also used for pollination purposes by the big Seabrook Farms with thousands of acres in vegetable production. We understand the farms own about 700 colonies and that they have a man whose main job is to see that the bees are placed where they are needed, and take care of them through the season.

There are also a lot of bees used generally for fruit, cranberries, blueberries, onions and scarlet sage. Probably no state in the Union has a closer cooperative setup between the beekeeper and the grower.

In many ways, my old state is a strange one. It was covered at one time by a glacier which couldn't make up it's mind whether to go farther over the surface of the land or whether to stop where it was. It finally decided to stop. As a result, it extended many exploratory fingers over the surface rock of New Jersey and when the big glacier got old enough to retire to a quiet corner, it left its deposit of glacial soil scattered over the surface of native rock and native soil in a strange mixture which produces a great variety of soil and also a great variety of honey plants. Crops of honey may be obtained a few miles from locations where no crop is produced at all. This, of

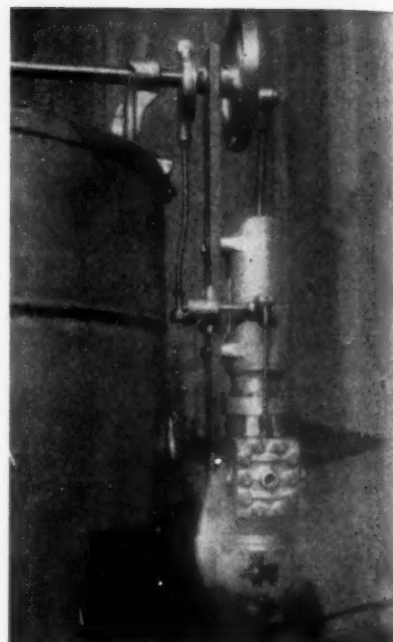
course, gives the agricultural enthusiast something to work on and there is no more diversity to be found anywhere than can be found in New Jersey.

Studies at the experiment station in New Brunswick by Filmer and Holcomb show that in most colonies, most years, there is a period in the spring, usually in March after winter brood rearing has started, when colonies are not able to reach their pollen reserves since the position of the cluster is fixed with the brood. Then the feeding of a pollen supplement or even a pollen substitute will tide the colony over, keep the brood expanding, until the bees are able to make full use of their own distant reserves or new pollen. Doubling the brood in this period often doubles the crop later.

An interesting report was given of observations on the pollination of clover which show that the seed set of clover decreases in a very definite ratio as the distance away from the hive. There is apparently a restricted flight range even under the best conditions and efficient pollination may require that bees be placed on the four sides of the field to be pollinated and possibly one lot in the center. It may be that pollen carrying flights are more limited than nectar carrying flights.

A visit to Harry Conner was interesting. He winters three nuclei to a hive putting the hives in a building on top of the ground. The building has two rooms, one room dark and insulated with rock wool for the winter storage of the nuclei and the other room with a door opening into the storage room and a coal stove to be used to regulate the temperature of the building more or less roughly. The temperature is kept from about 28 to 40 degrees during the winter according to the quietness of the bees. He is able to winter queens successfully for use in making nuclei in the spring for sale to beekeepers. It may be possible to winter bees in nuclei in this fashion and to increase the number that can be wintered by the use of reservoir cages in frames in the nuclei where the bees can take care of the queens until spring. This will make it possible to winter hundreds of queens for spring use.

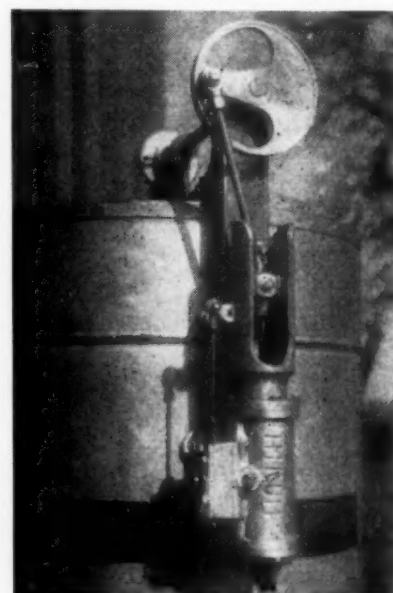
Much interest in honey plants in the East, in Pennsylvania and New Jersey particularly. Pennsylvania is establishing a honey research



HIRUM

Here are three views (one at top of next page) of Hiram, a steam engine we made and mounted on our extractor. We named it Hiram because we thought it would be about as dependable help as we could get. With 20 lbs. or more of steam it really goes to town, with control of speed at all times. With 60 lbs. it develops over one-quarter horse power. The gears are an axle and spider gear from an old Ford.

Herman McConnell,
Illinois.



planting. New Jersey is seeking suitable honey plants for roadsides. The experiment station is also interested.



HIRUM'S EXTRACTOR

It was originally two frame size. We replaced with a radial reel that holds 18 shallow frames (two supers).



WATERER

It avoids the trouble of the bees going elsewhere. Trough any size, two to a large yard. Float type valve, using old electric light bulbs as floats. Valve from a Daisy dog waterer. Screen inside tank over outlet to screen off dirt. Drum fifty gallon, with head out and fitted with cover. Trough filled with peat moss. With float instead, can be used for outdoor syrup feeder.

Ralph W. Barnes,
Nebraska.

— v —

HEAVY CANADIAN DEMAND FOR PACKAGE BEES

The importation of package bees from the South is vital in Canada, and so great has been the demand that many beekeepers have placed orders months in advance and Dominion Apiarist, C. B. Gooderham says the demand is at an all-time high. Some of the representatives of Western Canadian producing organizations made special trips south last fall to contract for their spring needs.

Who's It?

WELL, we got back in our old stride last month. Instead of just a few knowing "Who's it?" many did; and many didn't. Let's see if we can succeed again. This young man has always been an investigator with beekeeping as one of his chief interests. He probably knows more about the honey plants and the beekeeping in his part of the country than anyone else. He can tell you about plants that are honey producers, about which the most experienced beekeeper knows little. He is also a skillful research man in bee breeding and he and his workers are responsible for much of the improvement which has taken place in a certain strain of bees in the past few years. He is prominent in his state as a leader, experimenter, teacher and has placed his imprint on the industry which will long be remembered as a monumental achievement.

Who is he? Send your answer before the 15th. Please remember the date. Many miss it, and so please remember the date, before the 15th. If you answer correctly, your subscription will be extended three months.

* * * *

Last Month, George H. Rea,
Nashville, Tennessee

George has had many addresses, Pennsylvania, New York, North Carolina, Tennessee. He has prob-



George H. Rea



ably been the most outstanding extension man in the United States both as a public official in the service of New York state, and as an extension apiculturist for the United States Department of Agriculture. He has been long a prominent queen breeder, a commercial beekeeper at Reynoldsville, Pennsylvania and now inspector of apiaries for Tennessee. Perhaps no man has had wider official experience or wider acquaintance with beekeepers in the territory in which he has worked than George H. Rea.

Quotes from the answers:

"It must be an open season on inspectors, as I believe the guilty man is an inspector, George H. Rea of Tennessee."—V. O. Lee, Charleston, Arkansas. "Who else except that bee man from the Pennsylvania hills would have such an intelligent looking face."—I. L. Barton, Townville, Pennsylvania. "About 30 years ago a delegation of the Philadelphia association journeyed to Harrisburg to advocate the passage of a bill to appoint inspectors, and they were joined by a young beekeeper from Reynoldsville, George H. Rea, who is surely the 'Who's It?' for February. Time has brought little change in his appearance except his crop of hair is sparse and grey. He still has the same good natured expression. His activities have taken him to many states of our nation, and we of the Keystone state proudly claim him as a Pennsylvanian."—Frederick Hahman, Altoona, Pennsylvania—"Surely this is George Rea with snow on his head."—Harry T. Starnes,

(Please turn to page 97)

FOR SALE

BRIGHT YELLOW AND THREE
BAND QUEENS

GRAYDON BROS.

RT. 2

GREENVILLE, ALA.

YOU WILL BE PLEASED WITH
OUR

DARK ITALIANS

FOR BETTER HONEY PRODUCTION

Prices

	Queens	2-Lb. with Queen	3-Lb. with Queen
1-24	\$1.15	\$3.75	\$4.75
25-100	1.05	3.50	4.50

May we have the privilege of serving
you? Will have queens all summer.

LOUIS L. COUCH

"The Village Beekeeper"
PINEVILLE, LOUISIANA

N. W. BEEKEEPERS BUY LEWIS-DADANT Bee Supplies IN MINNEAPOLIS

Save on Freight, Faster Service
Send List of Supplies Needed
for Quotation

HONEY AND BEESWAX
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HONEY SALES COMPANY

1806-08 No. Washington Ave.
MINNEAPOLIS, 11, MINN.

1945 PRICES

ITALIAN BEES AND QUEENS

2-lb. pkg. with queen \$3.75; 3-lb. pkg.
with queen \$4.75; 4-lb. pkg. with queen
\$5.75. Prompt shipment and safe de-
livery guaranteed, 20% deposit on
booking orders.

Order early and play safe.

CLOVER BEE FARM
Address, HESSMER, LA.

MIDDLE TENNESSEE APIARIES

Will be in the queen business at the
same stand.

SEE PRICES IN NEXT ISSUE

J. B. TATE & SON

1029 No. 4th Street
NASHVILLE 7, TENNESSEE

GLEANINGS IN BEE CULTURE

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MONTHLY TALKS TO BEEKEEPERS

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In United States and Canada

THE A. I. ROOT CO.

MEDINA, OHIO

**When Writing Our Advertisers,
Please Mention the Bee Journal.**

Meetings and Events

The National Meetings

The National Federation of State Beekeepers' Associations met in Chicago, January 14-16 to further its organization and to discuss problems confronting the industry. More than 200 beekeepers and others affiliated with the beekeeping industry attended the interesting and lively sessions. Mr. Oscar W. Schmidt, president of the Federation, presided over the meeting with the assistance of the secretary, Dr. V. G. Milum. Before the meeting was over it was apparent that great progress had been made toward a strong national beekeeper's organization.

The Resolutions committee met for several days prior to the meeting to draft a plan for financing the Federation and to prepare resolutions regarding problems vital to the industry. This committee is to be commended for its work and was composed of Joseph E. Reinhardt, chairman, Dr. E. F. Phillips, Woodrow Miller, G. G. Puett, L. C. Dadant, and Prof. R. H. Kelty. They were assisted in their work by Dr. Milum, Dr. Eckert, H. M. Bain, Ed. Brown, and others.

Resolution No. 1, which was unanimously adopted by the Federation recommended means of raising funds for financing the work of the Federation, the employment of a paid secretary, the creation of an office for the Federation, the publication of a news sheet to members, and revisions of the by-laws to conform with these changes. The executive committee later appointed George Rea as secretary who was unable to accept the appointment because of his health. Dr. V. G. Milum later was engaged as secretary, subject to the final approval of the executive committee. Dr. Milum will be able to give a good part of his time to his duties during the first part of the year and during the summer months will give his full time to this work.

Other resolutions which were adopted pertained to the formulation of programs for future meetings, the proper timing and application of insecticides harmful to bees, the inclusion of precaution statements on insecticide labels, the institution and enforcement of regulations regarding DDT, research with respect to minimum application and particle size of insecticides, the publication of bulletins and comparable publications by the Department of Agriculture, remuneration for the work of Dr. Milum

as secretary during 1944, recognition of the need for a suitable jar for chunk honey, the support of the American Honey Institute by all beekeepers, the furtherance of marketing information by the War Food Administration, the delay in issuance of RMPR 275 by OPA, increase in dues of members, appreciation of the assistance of Mr. H. M. Bain, and the excellent accommodation of the Morrison Hotel.

An excellent program included the following speakers: Harold J. Clay, Woodrow Miller, John H. Paton, Alan Root, R. F. Remer, H. M. Bain, Dr. E. F. Phillips, G. G. Puett, Dr. J. E. Eckert, Donald O. Lee, Lewis Parks, Harriet Grace, Elmer Carroll, James I. Hambleton, Dr. Howard Potter, C. A. Reece, Charles Mraz, and Dr. W. E. Dunham. The National Beekeeper's Auxiliary also met and a good attendance of beekeeping ladies reported a fine program and an enjoyable meeting.

Officers elected for 1945 are John H. Holzberlein, president and Woodrow Miller, vice-president. The five regional representatives who, with the officers of the Federation, form the executive council are Ralph W. Barnes, Oscar W. Schmidt, Roy H. Herr, G. G. Puett, and Woodrow Miller.

The Beekeeping War Council for 1945 is composed of R. F. Remer and John H. Paton, representing the National Honey Association; Alan Root and Roy A. Grout, representing Bee Industries Association; and the five regional representatives of the National Federation of State Beekeepers' Associations. Woodrow Miller was elected chairman of the Council, with Oscar W. Schmidt, vice-chairman and Roy A. Grout, secretary. Briefly, the purpose of the Council is to coordinate the activities of the groups composing its membership and its actions so far have largely been concerned with contacting Washington officials in regard to problems confronting the industry. The secretary of the Federation will be an ex-officio member of the Council.

—V—

South Carolina, March 14

The Palmetto State Beekeepers Association spring meeting will be held in the Chamber of Commerce rooms at Columbia, South Carolina, on March 14. All interested beekeepers are urged to be present. The

(Please turn to page 99)

WHO'S IT?

(Continued from page 95)

Crawfordsville, Indiana. "My guess is that this young man is George Rea. I know him well, and this is George of a younger day."—J. G. Burtis, Marietta, New York. My guess is George Rea, a great authority and Christian gentleman of bee-keeping."—A. M. Kennedy, Tidioute, Pennsylvania. "There is something about the face that makes me say instantly, 'George Rea.'"—Milton Stricker, Maple Shade, New Jersey. "Not having met the gentleman, must guess on clues which is quite a problem, but I will guess it is George Rea. I got fooled on Bob in January and Allen in December, but I hit the ball with Frank in November. What luck will I have with George?"—W. P. Kinard, Louisville, Mississippi. "The 'Who's It?' is none other than George Rea and he still is wearing that mouth."—E. G. Carr, Pennington, New Jersey. "It is George H. Rea, and he still has those kissable lips."—Kenneth Hawkins, Watertown, Wisconsin.

There were many wrong guesses too, so George will have to fix it up with the following gentlemen, particularly E. L. Sechrist and Morley Pettit. J. G. Baxter, Pickering, Ontario thinks that it might be Sechrist about 1895. Eldon Martin says, "this game is progressing into such a tricky state that you never can tell who might pop up, so I say again, it is E. L. Sechrist. The nose and mouth could very well be those of Sechrist, and the hints." S. J. Watkins of Selma, California claims that "it looks like Sechrist must have looked in his younger days. The color of the hair is too dark, but the shape of the nose, chin and mouth are very similar, and there is no doubt as to the case history fitting him."

He was taken for Jay Smith of Fort Myers, Florida; Carl E. Killion, Illinois inspector; E. C. Bessonnet, queen breeder, Donaldsonville, Louisiana; Dr. C. L. Farrar of Madison, Wisconsin; Walter T. Kelley, Paducah, Kentucky; W. C. Roberts, University of Wisconsin; Cary W. Hartman, Oakland, California; M. C. Berry, queen breeder, Montgomery, Alabama.

And last, Vice-President, Henry Wallace! (Lawrence Williams, Carterville, Illinois.)

—V—

UTAH ALARMED

The alarming death rate of bees in Utah is threatening the state's fruit industry. Ray Miller, secretary of the Utah Honey Growers' Association, suspected as either lead arsenic used in spray or smelter smoke.

Glen Perrins, Utah.

SUNNY NOOK APIARIES for BEE POWER

- ★ Your equipment and management plus "Bee Power" from Sunny Nook Apiaries forms the proper combination for record honey production.
- ★ Superb Italian queens and bees offered as the result of over a quarter century of exacting selection.
- ★ Sunny Nook Apiaries will solve your bee supply problems.
- ★ Satisfaction guaranteed.

Reference: St. Lucie County Bank, Fort Pierce, Florida

SUNNY NOOK APIARIES
BOX 97 : FORT PIERCE, FLORIDA

PACKAGE BEES and QUEENS

Progeny-test 3-Banded Italian Strain. Also, Mraz's and other reliable breeders' strains of high quality daughters of stock bred for resistance.

Early queens available from March 10th or 15th to April 10th.

From April 10th to May 15th about all of our bees for packages and nearly all of our queen production are booked up. Some bees for packages will be available for small orders from May 15th and later.

The queen situation will commence to ease up by latter part of May. The above is the outlook at this time. Favorable growing conditions will increase production.

	2-Lb. Pkg. With Queen	3-Lb. Pkg. With Queen	Queen
1- 9	\$3.70	\$4.70	\$1.10
10-24	3.60	4.60	1.05
25-99	3.55	4.55	1.00
100 and up	3.45	4.45	.95

QUALITY AND SERVICE

GARON BEE COMPANY Telephone **8614**
TELEGRAMS, WESTERN UNION DONALDSONVILLE, LA.

Package Bees - QUEENS - 3-Band Italians

I have a limited number of packages to offer from May 12 to June 1. Send in your order now for best shipping dates. NO MIRACLES, just a good prolific strain of Italians, personally reared.

Quantity	Queens	2-Lb.	3-Lb.
1-24	\$1.25	\$4.00	\$5.00
25-99	1.15	3.75	4.80
100-up	1.05	3.50	4.50

You will like these bees. 10% deposit with order. Balance before bees are shipped.

EUGENE D. CUTTS : Citronelle, Alabama

Caucasian Package Bees & Queens

Bred from high producing strain, tested for years in the inter-mountain country. Write for prices.

CHAS. W. HESS

Rt. 5, Box 7500

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Extra Care Fast Service • **High Producers Prolific-Gentle**

AT Picayune, bees and queens are raised under natural conditions. Prolific, gentle, honey producing stock, managed under moderate honeyflow, starting about March first and continuing through the breeding season.

OUR stock has been chosen for prolificness, high production, gentleness, and appearance. There are four express and mail trains daily to give you fast service.

FOR extra safety in shipping, we use cages with more screen wire; we provide more syrup to guard against any possible delays; we take every precaution to make sure that your bees reach you in perfect condition.

1945 PRICES

Lot	Queens	2-Lbs.	3-Lbs.	4-Lbs.	5-Lbs.
1- 5	\$1.35	\$4.25	\$5.25	\$6.25	\$7.25
5-15	1.30	4.15	5.15	6.15	7.15
15-25	1.20	4.00	5.00	6.00	7.00
25-up	1.15	3.90	4.90	5.90	6.90

Above package prices include queen. Queenless packages, subtract \$1.15 from price of package with queen. All queens are airmail, postpaid, but package bees are F. O. B. shipping point and are Express collect. It is preferable to ship package bees by Railway Express, however, they can be mailed and in that event, customers should include postage.

Terms: Small orders, cash in full. Large orders, 20 per cent deposit, balance to be received two weeks before shipping date. U. S. funds.

The Daniels Apiaries : : Picayune, Miss.

Package Bees--Carniolan Queens

EPHARDT'S HONEY FARMS

2-lb. pkgs. with queen \$4.00 ea. F. O. B.
3-lb. pkgs. with queen \$5.00 ea. F. O. B.

PLAUCHEVILLE, LOUISIANA

Italian Package Bees and Queens

	2-Lb.	3-Lb.	4-Lb.	Qu'ns
1 to 24	\$4.00	\$5.10	\$6.00	\$1.25
24 to 99	3.75	4.80	5.85	1.15
100 up	3.50	4.50	5.50	1.05

Kermit Anderson

COFFEE SPRINGS, ALABAMA

BLUE RIBBON

PACKAGE BEES

"BEST IN THE WEST"

THOS. C. BURLESON, COLUSA, CALIF.

PACKAGE BEES

Italian Queens

Now booking needs for 1945 season. Get your orders in early.

	1-24	25-49	50 up
2-Lb.	\$4.00	\$3.85	\$3.75
3-Lb.	4.85	4.65	4.50

No extra queens available No C.O.D.

We guarantee full weights on all packages and prompt shipment.

Oscar Arnouville

HAMBURG, LOUISIANA

Leather Colored Italian

PACKAGE BEES AND QUEENS

50 OR MORE

2-Lb. package and queen.....	\$4.00
3-Lb. package and queen.....	5.00
Extra queens, each.....	1.25

Health certificate and live delivery guaranteed. These bees get the honey.

Get the Best.

Gold Flat Apiaries

NEVADA CITY, CALIFORNIA

Thanks

for your orders

We are now booked with all orders we can fill until June 1945.

Weaver's Apiaries

NAVASOTA, TEXAS

MEETINGS AND EVENTS

(Continued from page 96)
committee announces a good program
and an interesting time.

— V —

Bronx County (N. Y.) March 11

The Bronx County Association will hold their regular monthly meeting on Sunday, March 11 at 2:30 P. M., at the home of the president, W. Molitor, 1348 Franklin Avenue, Bronx. A cordial welcome is extended to all interested. Refreshments will be served. Bring your questions.

Harry Newman, Secretary.

— V —

New Rochelle (N. Y.) March 18

The New Rochelle Association will hold its regular monthly meeting on Sunday, March 18, at 2:30 P. M. at the home of Mr. and Mrs. Alfred B. Stoddard, 20 Whitfield Terrace, New Rochelle. Package bees and their care will be the subject for discussion. Movies will be featured. Come prepared to spend an enjoyable afternoon. Refreshments will be served.

A. M. Barnes,
Assistant Secretary.

— V —

Middlesex County (Mass.) March 31

At the March 31st meeting of the Middlesex County Beekeepers Association at 7 P. M. at 19 Everett Street, Concord, Massachusetts, a representative of the fruit growers will speak on "Orchard Rentals". The hot pork and bean supper will feature hot brown bread, comb honey, pies, cheese, coffee and honey cookies. The third reel of our natural color film of bees and nectar producing flowers will be shown with other interesting films by Mr. Walter M. Copeland and Mr. Harold R. Stevens. Those wishing to rent out extra colonies may write to the Middlesex County Extension Service, 19 Everett Street, Concord, Massachusetts, giving number available, price and transportation required.

A. M. Southwick, Pres.

— V —

Luther Weaver

"Dr. Luther Weaver, past president and an honorary member, died at his home in Yeadon, Pennsylvania, on January 30th, at the age of 84. He was a member of the Delaware and Montgomery County Beekeepers' Associations. He always took an active part in all meetings, both county and state. He was loved by all who knew him. He was helpful, active and full of good cheer. He always enjoyed being among beekeepers, and his presence will be missed."

Philadelphia Beekeepers
Association,
Harry B. Pye, Sec'y.

Pure Italian Queens and Package Bees

You can count on us for perfect packages, full weight, quick service and good queens.

Our colonies are regularly state inspected. We furnish, with all shipments, a clean health certificate.

PRICES

Queen, 1 to 49	\$1.10	50 and up	\$1.00
2-lb. package with queen, each	\$3.45	50 or more	\$3.25
3-lb package with queen, each	4.45	50 or more	4.25
4-lb. package with queen, each	5.45	50 or more	5.25

HOMAN BROS.

SHANNON, MISS.

R. F. D. 2

As we cannot tell what the weather man and the War Department have in store for us would not care to book up any heavier on package bees or queens at this time for early shipment. Have a few open dates around May 20 and later.

PRICES FROM APRIL 15TH TO JUNE 1ST.

	Queen	2-Lb.	3-Lb.	4-Lb.	5-Lb.
1 to 24	\$1.25	\$4.00	\$5.10	\$6.20	\$7.30
25 to 99	1.15	3.75	4.80	5.85	6.90
100 up	1.05	3.50	4.50	5.50	6.50

A. E. SHAW, Shannon, Mississippi

Three-Banded Italian Bees & Queens

Due to heavy bookings we have sold our entire supply for early April shipment. We can accept additional orders for shipment last part of April and for month of May. We want to urge you to send us your orders as early as possible.

Prices to June 1, 1945

Quantity	Queen	2-lb. with queen	3-lb. with queen	4-lb. with queen
1-24	\$1.25	\$4.00	\$5.10	\$6.20
25-99	1.15	3.75	4.80	5.85
100 up	1.05	3.50	4.50	5.50

For queenless package subtract price of queen.

We ship only overweight packages of young bees, and young queens, guaranteed to be purely mated. Direct all mail to us at Leroy, Alabama and telegrams to us at Jackson, Alabama.

HOLDER APIARIES : Leroy, Alabama

ITALIAN PACKAGE BEES AND QUEENS

On the same old Basis—QUALITY, SERVICE, SATISFACTION

2-lb. bees with queen	\$3.95
3-lb. bees with queen	4.95
4-lb. bees with queen	5.90

Queenless packages deduct \$1.00 Write for prices on comb packages.

E. J. BORDELON APIARIES : Box 33 : Moreauville, La.



This photo shows a portion of one of our queen yards containing over 6,000 nuclei

ITALIAN PACKAGE BEES AND QUEENS

2-Lb. with queen ----- \$4.00
 3-Lb. with queen ----- 5.00
 Extra queens, each ----- 1.25

● BY EXPRESS ●

OVERBEY APIARIES, Bunkie, Louisiana

Lady Like Honey Bees

Owing to the shortage of material and labor our shipping of package bees will be limited largely to the three pound package. Our circular and prices are ready to be mailed on request.

Select untested Caucasian queens \$1.50 each.

Three pounds of bees with above grade queens \$5.25 each.

All orders filled in rotation. We assure you the best possible service under prevailing conditions.

Caucasian Apiaries
 Castleberry, Alabama

Queens - March Queens

We will have queens during March as usual this year. We are still unable to accept more orders for packages during April and the first half of May. Write the latter part of March for further information.

	Queens	2-Lb. Pkgs with Queen	3-Lb. Pkgs. with Queen
1-24 -----	\$1.25	\$4.00	\$5.00
25-99 -----	1.15	3.75	4.80
100 up -----	1.05	3.50	4.50

BESSONET BEE COMPANY
 Donaldsonville, Louisiana

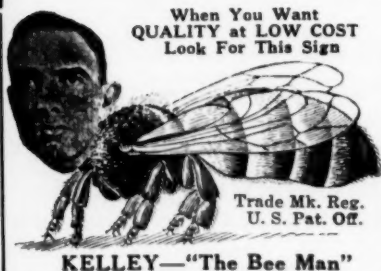
Package Bees For 1945

WITH QUEENS OF HIGHEST QUALITY.
 PLACE YOUR ORDER NOW.

	1 to 23	24 to 98	99 up
2-lb. packages with queens -----	\$3.85	\$3.70	\$3.50
3-lb. packages with queens -----	4.85	4.70	4.50
For queenless pkgs., deduct -----	1.25	1.20	1.15

Save us time and delay by ordering your packages in multiples of three. Terms. \$1.00 per package with order, balance before shipping date. Live delivery and satisfaction guaranteed.

JOHN C. HOGG
 TIFTON, GEORGIA



Write for 1945 price list. We now have many items that have been short for some time. Prices remain steady except on bees. All stocks are low, so order early.

GLASS We again have a large stock of **ECONOMY** style glass jars ready for quick shipment

Carton of 24	1 Lb.	12 Lbs.	70c per case
Carton of 12	2 Lb.	9 Lbs.	42c per case
Carton of 6	5 Lb.	10 Lbs.	50c per case
Twelve cartons of 5 Lb.			\$5.00 per lot
Twenty-four cartons of 5 Lb.			\$9.95 per lot
Carton of 16 5-gal Cans			\$5.40

WALTER T. KELLEY CO. : Paducah, Kentucky

CROP AND MARKET REPORT

Compiled by M. G. DADANT

We recommend to all beekeepers interested in honey markets that they enroll themselves with the Bureau of Agricultural Economics, Washington, D. C., for copies of semi-monthly honey and beeswax market reports. They are invaluable.

For our March issue, we ask reporters to answer the following questions:

1. Condition of bees?
2. Are they suffering from too long confinement?
3. Honey plant prospects?
4. Have honey sales held up well?
5. How much honey left on hand?

Condition of Bees

It is very difficult to report on condition of bees as in most sections of the northern half of the United States, the bees have been practically dormant with a steady, cold winter. In the mountain territory, they have had sufficient flights where the weather has been perhaps slightly warmer than ordinary. In the southern sections, bees have gotten along through the winter in satisfactory fashion and no difficulties are anticipated.

Arizona reports excellent conditions as does New Mexico and Texas bees also are in excellent shape for this season of the year.

California reports perhaps colonies not up to ordinary strength, but the season developing satisfactorily and all in all, we would suggest that the condition of bees where it has been able to examine them, perhaps is equal if not better, than a year ago.

Confinement of Colonies

It is throughout the north central and northeastern areas where heavy snows and continued cold weather have kept bees in confinement since mid-December, that the question of restlessness and difficulty with dysentery has been suggested. However, in some of these areas, a flight during mid-February, when much of the snow disappeared, has had excellent effects.

However, such long continued period of confinement within the hives, coupled with, in many instances, inferior stores especially unripened aster honey, will have had a considerable effect on weakening the colonies more than ordinary and

we may expect some spring dwindling as a consequence.

Honey Plants

Without exception, we believe that this is the most heartening situation in the entire beekeeping field. Honey plants everywhere are in excellent condition, owing to heavy snows or substantial rains. Even in California where a drought seemed imminent, late rains have fallen and it only remains now for a rain during the crop season to fulfill the anticipations of many of the big producers there. The sweet clover areas of the central west particularly Iowa, Nebraska, Illinois, Minnesota, and the Dakotas, are complaining of shortage of amount of pasturage of sweet clover. However, this will partly be made up probably by the excellent condition in which the little Dutch white clover has come through the winter, owing to fall rains and the heavy cover of snow on an only partially frozen soil.

Honey Sales

While honey sales have not been anything near as brisk and dynamic as they were a year ago, they have been sufficient to clear up all of the crop. Even the amber grades are now moving into the market quite satisfactorily and there has been a brisk turn up in demand during the past days. We have only one report of honey selling below ceiling and that was reported in Kansas of a part of a group of chain stores. Apparently this was amber honey although its quality was not given.

Honey On Hand

Likewise, the amount of honey on hand need not concern anyone as undoubtedly all honey will be disposed of by the time the new crop is ready to place on the market.

Government reports show that our crop was just slightly below the 1943 season. Beekeepers are beginning to wonder whether a bumper crop might not cause a stagnation in the market. However, as long as sugar markets are as tight as they are now, undoubtedly honey will move readily into the consuming channels, even with ample of the cheaper syrups in evidence.

HONEY WANTED Carloads or Less HIGHEST PRICES PAID

LEWIS A. KONCES CO.
NORTH ABINGTON, MASS.

One Can or a Carload—What have you? Mail your offerings to us.—Prompt action. Cash on delivery.

JEWETT & SHERMAN CO.

Lisbon Rd. & Ervins Ave.
Cleveland, 4, Ohio

1204 W. 12th St.
Kansas City, Mo.

ITALIAN BEES AND QUEENS

PRICES TO JUNE 1

	Queen	2-Lbs.	3-Lbs.	4-Lbs.
1-24	\$1.25	\$4.00	\$5.10	\$6.20
25-99	1.15	3.75	4.80	5.85
100-up	1.05	3.50	4.50	5.50

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Italian Package Bees & Queens

2 pound package with queen	\$4.00
3 pound package with queen	5.00
Queens, each	1.25

Quantity discounts.

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MAY AND JUNE DELIVERY

	1-24	24-49	50 Up
2-lb. and queen	\$4.00	\$3.80	\$3.60
3-lb. and queen	4.80	4.60	4.40

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Italian Pkg. Bees and Queens

	2-Lb.	3-Lb.
With Queens	\$4.00	\$5.10
1 to 24	\$4.00	\$5.10
25 to 99	3.75	4.80
100 up	3.60	4.60

Express collect.

No loose queens available

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SELECT LEATHER Italian queens. Secure delivery now, 20% required. 25 or more only \$1.25 straight. Satisfaction guaranteed. J. H. McCartney, Piru, California.

GOLDEN QUEENS finest quality. Fine workers. Fast. \$1.25 any number. Carolina Bee Farm, W. O. Curtis, Mgr. Graham, North Carolina.

QUEENS from prolific Italian breeding stock selected for honey production and not for color alone. 1 to 24, \$1.25; 25 to 99, \$1.10; 100 up, \$1.00. Allen J. Airhart, 608 Cottage Lane, Lake Charles, Louisiana.

PACKAGE BEES with young laying Caucasian queens. 2 pound package \$3.80; 3 pound \$4.80. See us for queens after May 31, \$1.00 each. Formerly Miller Bros, now write Miller and Evans, Three Rivers, Texas, Rt. 1.

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NOTICE—Cannot accept any more orders for package bees and queens until after June 1st. Tillery Brothers, Greenville, Alabama.

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PACKAGE BEES for April and May. Young thrifty Italians. Tanner Bee Company, Laurel, Mississippi.

THANKS to our many friends, completely sold out for April and May. Now booking for June delivery at \$9.00 per dozen. Walter D. Leverette, P. O. Box 364, Fort Pierce, Florida.

THREE Banded ITALIAN queens of finest quality. 1 to 25, \$1.25; 25 to 100, \$1.20; 100 up, \$1.10 each. Satisfaction guaranteed. Health certificate with every order. Alamance Bee Co., Geo. E. Curtis, Mgr. Graham, N. C.

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WRITE FOR CATALOGUE. Quality bee supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies, Onsted, Michigan.

LARGE CASH SAVINGS can be made by letting us work your wax into either wired or plain foundation. Large independent factory manufacturing a complete line of bee supplies including extractors, etc. Selling direct saves you the agent's profit. Quick shipment from large stock. Large free catalogue explains everything. Walter T. Kelley Co., Paducah, Kentucky.

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FOR SALE—50 new 8-frame hive bodies without frames. 5,000 each scalloped section holders, scalloped separators for 4 1/4 x 1 1/4. Very good shape. No disease. Any amount. Cheap. Mel Ott, Middletown, Illinois.

200 eight and ten frame G. B. Lewis wire queen excluders, practically new. 8-frame 50c, 10-frames 65c, F. O. B., Spencer, Iowa. George C. Rubis.

100 new and used 10-frame metal roof covers with bottoms. Also steam boiler. Shuey Bros., Rt. 1, Billings, Montana.

FOR SALE—One hundred eight-frame, two hundred 10-frame colonies, 2 supers each, young queens. Plenty stores on good package and honey locations. Certified for shipping packages. Also two thousand pounds bees, you supply cages and labor, help ship them. Also four hundred 3-pound loose queen packages with original clipped loose queen after May 15th. A. V. Dowling, Valdosta, Georgia.

FOR SALE—800 hives two-story, with queen excluders. All in good condition. Have locations for season if desired. Located in Central California. Write J. A. Becker, Box 218A, Brentwood, California.

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EQUIPMENT for 50 colonies. Fifteen colonies Dadant hives, 15 empty Dadant hives with combs, 120 Dadant extracting supers—standard hives and supers, 100 Dadant extracting supers 10 frame empty, extra telescope lids 8 and 10 frame, 50 extra inner lids, 2 frame extractor. Asher Dillard, Walthill, Nebr.

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WANT few acres with buildings or small farm. Midwest. Write Box 454, Chicago 90, Illinois.

WANTED—Bees to take care of three hundred odd acres of White Dutch Clover, one hundred acres of Crimson Clover and mixed pastures. Will furnish apartment during season or buy or rent hives. W. M. Yandell, Vance, Mississippi.

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WANTED—Experienced queen breeder for work in our Georgia yards. Stover Apiaries, Mayhew, Mississippi.

WANTED—Man with some experience with bees. Board and room furnished. Rex Schlemmer, Edgar, Montana.

HELP WANTED—An experienced man to work, year round, in apiary. Must have good habits—drinkers need not apply! J. W. Reitz & Bros., Sun-Glo Honey, Rt. No. 1, Summerfield, Florida.

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GET your Rocky Mountain bee plant seed now. 25 cents per packet; five packets \$1.00 postpaid. Glen Morgan, 918 Prescott Ave., Canon City, Colorado.

SEEDS of honey plants—Birds-foot Trefoil promising forage crop, \$2.00 pound postpaid. Anise Hyssop, blooms June until frost, 1/4 ounce \$2.00, 1/4 pound \$10.00. Utilize waste land, plant Golden Honey plant, seed \$2.50 per pound in pound lots or more. Purple Loosestrife and Catnip, \$7.00 per pound. One packet each of fifteen honey plants, \$2.00. Send for circular, Melvin Pellett, Atlantic, Iowa.

FOR SALE—Sainfoin seed 1944 crop grown without irrigation. 75c per pound up to 10 lbs. 55c per pound in lots over 10 pounds. R. W. Brimhall, Pleasant Grove, Utah.

BY EXPRESS COLLECT—American Basswood trees 4-5 ft. at \$1.00; 5-6 ft., \$1.50; 6-8 ft., \$2.00; 3-4 ft. seedlings 40c; for Cordata Basswood (earlier bloom) add 25c each; French Pussy Willow 4-5 ft. (pollen producer) 75c; 3-4 ft., 40c; Red Dogwood shrub 4-5 ft. at \$2.00 per 50; Pink Tartarian or Morowii Honeysuckle shrubs 18-24 inch \$8.50 per 50; 2-3 ft., \$11.00 per 50; 4-5 ft., \$22.00 per 50; **BY MAIL PREPAID** 5 American Basswood seedlings 12-18 inch or 4 18-24 inch for \$1.00; 2 3-4 ft. at \$1.00; 2 Cordata Basswood 3-4 ft. at \$1.45; 2 4-5 ft., \$2.00; 4 pink Tartarian or 5 Morowii Honeysuckle shrubs 18-24 inch for \$1.00; 2 French Pussy Willow (pollen producer) 3-4 ft. for \$1.00; 3 Red Dogwood shrubs 18-24 inch \$1.00; 10 Siberian Pea Tree seedlings 18-24 inch for \$1.00. Personal check requires 10c. (Our best nectar and pollen producing trees and shrubs). Can ship in March for South. A local Lewis-Dadant dealer. **NICOLET COUNTY NURSERY**, St. Peter, Minn.

MISCELLANEOUS

BRADSHAW DEMOUNTABLE UNCAPPING PRESS for sale complete with four baskets made of hardwood. Will trade for anything, what have you to offer. Cloverdale Apiaries, Manhattan, Montana.

FREE CORRESPONDENCE COURSE in Beekeeping. Write to Correspondence Courses in Agriculture and Home Economics, State College, Pennsylvania.

GET your drawings and construction detail NOW for proven tried **BRADSHAW DEMOUNTABLE UNCAPPING PRESS**. No more headaches, simple to build your self. Won't rust out, last lifetime. Producers report it greatest improvement in fifty years. No heat required, will not darken honey. Adaptable any size outfit. Send \$2.00 today for **PLANS** to Bradshaw & Sons, Wendell, Idaho.

Better Bred Queens-3-Banded Italians

We appreciate your business in the past and solicit your future patronage. Wish to assure you we will give the same prompt service and quality this season. Please book from this ad at once. Prices are as follows:

	Queens	2-Lb.	3-Lb.	4-Lb.	5-Lb.
1-24	\$1.50	\$4.25	\$5.35	\$6.45	\$7.55
25-99	1.40	4.00	5.05	6.10	7.15

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Send For Price List--Order Now

WE CAN SAVE YOU MONEY ON HIGHEST QUALITY SUPPLIES

No. 14 four-frame Extractor, non-reversible, hand power, each **\$14.75**
10-frame, one story METAL Cover Hives, complete,

No. Fdn. Lot 5	14.75
10-frame Bodies with Frames, lot 5	6.65
10-frame Wood Bound Queen Excluders, 5 or more, each	.80
Hoffman Brood Frames, lots of 100	5.05
25-lb. lots Thin Surplus Fdn. 3 3/8 x 16—4 1/2 x 16 1/2	19.75
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HAVE YOU TRIED OUR WIRED "IRONSIDES" FOUNDATION

100 sheets "Ironsides" Foundation 8 1/2 x 16 1/2, only	12.50
Wire Face Bee Veils, each	.80
Bee Escapes, each	.12
Smokers, 4x7 inches, each	1.00
2 Inch Hive Staples, lb.	.30
60 Lb. Cans (new) each	.38
1-Lb. Glass Jars, packed 2 dozen, per case	1.00
2-Lb. Glass Jars, packed 1 dozen, per case	.90
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TERMS—Cash with order, f. o. b. Cincinnati. **WANTED**—Shipments of honey and beeswax.

We also render wax from old comb or cappings. Send for our price list. We pay highest ceiling prices on honey and beeswax.

THE FRED W. MUTH COMPANY 229 WALNUT ST. : CINCINNATI (2) OHIO

PACKAGE BEES AND QUEENS for SPRING DELIVERY

We still have open dates, so for a bigger honey crop the coming season get our line bred Italians, noted for their prolificness, livability and vigorosity. Health certificate and satisfaction guaranteed.

	1-5	6-25	26 up	
2-Lb. package	\$4.00	\$3.90	\$3.75	QUEENS AT
3-Lb. package	4.85	4.65	4.50	\$1.10
4-Lb. package	5.85	5.65	5.50	
5-Lb. package	6.80	6.60	6.45	

Terms—Twenty per cent to book order, balance at shipping date

B. J. Bordelon Apiaries : Moreauville, La.

NEW TYPE BEE VEIL

Is here again, fits shoulders like diver's helmet, allowing head to turn any way, free of veil, very cool and comfortable. I have just been medically discharged from the army, where I was flying, now find things too uncertain to manufacture the veil this year, but have had so many repeat orders that I have decided to sell the plans, so you can make your own, just paste 25 cent coin to your letter and mail now.

W. F. GLEASON

DILLON, SOUTH CAROLINA, R. F. D. No. 2

Italian Bees 1945 and Queens

2-LB. PACKAGE WITH QUEEN \$3.75
3-LB. PACKAGE WITH QUEEN 4.75
QUEENS \$1.00 EACH

BOOK NOW AND ASSURE DELIVERY

EELLS HONEY & BEE CO.

872 HIGH STREET : HOUMA, LA.

IT'S A PLEASURE . . .

To serve you with the very finest of Italian Bees and Queens. Our queens are bred for resistance to disease. If your honey production has been below your expectation—then you should requeen with our resistant stock. Every package and queen guaranteed to please.

2-lb. package with queen ----- \$3.50
 3-lb. package with queen ----- 4.50
 Queens—\$1.10 or lots of 100 or more \$1.00

LUCEDALE APIARIES : LUCEDALE, MISS.

"Honey Girl" Italian Package Bees

25 years, selective breeding assures you, quality stock. 25 years experience assures you prompt, efficient service. There is no substitute for quality and service at the right price. Write us your anticipated requirements and approximate shipping date, and we will advise what we can do.

ST. ROMAIN'S "HONEY GIRL" APIARIES
MOREAUVILLE, LA.

THREE-BAND ITALIANS FOR 1945 with Queens of Highest Quality

APRIL AND MAY SHIPPING DATES AVAILABLE

	1 to 3	4 to 24	25-up
2-lb. packages with queens	\$3.80	\$3.70	\$3.60
3-lb. packages with queens	5.00	4.75	4.60
Young laying queens	1.15	1.10	1.05

Our breeder queens are from heavy honey producing colonies, non-swarming, long life and gentle.

E. R. RALEY, 710 W. Altamaka St., Fitzgerald, Ga.

FOR SALE

1,000—3-lb. packages with queen, express collect ----- \$4.00
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 Shipping date from April 1st, to May 31st. Still have available date for queen orders before April 10th and after May 20th. Our queen yard has the capacity of about 150 to 200 queens per day.

Gulf Coast Bee Co. : Schriever, La.

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Package Bees with Queens

We can accept a few more orders for May delivery.

Good overweight and safe delivery guaranteed.

2-lb. with queen ----- \$4.00
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10% deposit books your order. Prices quoted on quantity lots.

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Subscription \$1.00 per year, \$1.50 two years, \$2.00 three years. In combination with American Bee Journal \$1.75 per year.

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AMERICAN BEE JOURNAL

PRE-WAR SERVICE & QUALITY

Package bees headed by our famous queens. May we have the privilege of adding your name on our list of satisfied customers.

	Queen	2-Lb. Pkg.	3-Lb. Pkg.
1-24	\$1.25	\$4.00	\$5.10
25-99	1.15	3.75	4.80
100-up	1.05	3.50	4.50

Send us your queen orders.

Apiaries accredited and certified by the Alabama Dept. of Agriculture.

O. K. ANDERSON & SON
COFFEE SPRINGS, ALABAMA

Caucasian and Italian

PACKAGE BEES WITH QUEENS

2-Lb. package and queen\$4.00 each

3-Lb. package and queen 5.00 each

Over a quarter of a century in the same place, in the same business, is my record.

My motto: I will expect to do business with you again.

H. E. GRAHAM
CAMERON, TEXAS

PACKAGE BEES ITALIAN QUEENS

Queens	\$1.25
2-lb. packages	3.90
3-lb. packages	4.90

We guarantee full weight on all packages. Prompt shipment.

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HAMBURG, LOUISIANA

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3-LB. PACKAGE, ONLY
\$5.00 EACH

D. T. WINSLETT

1015 Sonoma Ave.
NO. SACRAMENTO, CALIFORNIA

PETTIT'S PACKAGE BEES Sold Out for April

MAY PRICES 1945—U. S. FUNDS ONLY

Quantity	with queen 2-lbs.	no queen 2-lbs.	with queen 3-lbs.	no queen 3-lbs.	queens Extra
1-2	\$4.00	\$2.75	\$5.00	\$3.80	\$1.25
3-27	3.85	2.65	4.90	3.70	1.20
30-96	3.70	2.55	4.70	3.55	1.15
99 up	3.50	2.40	4.50	3.40	1.10

JUNE PRICES 1945—U. S. FUNDS ONLY

1-11	\$3.65	\$2.65	\$4.70	\$3.70	\$1.00
12-99	3.45	2.55	4.45	3.55	.90
100 up	3.20	2.40	4.20	3.40	.80

Try Pettit's Package Bees without queens to boost those weak colonies or early packages so they really produce honey.

Send \$1.00 per package with order, balance ten days before shipping date. Bees leave here in good order. We replace shipping losses of bees and queens if reported promptly with signature of express agent showing percentage of loss, and not blaming us.

MORLEY PETTIT, Tifton, Ga.

It is impossible to meet the demand for queens for the short period of early spring.

We ask your cooperation by extending your requeening practice into late spring and early summer. Daughter queens reared from stock bred for resistance to A. F. B. are available. These queens are from rigidly tested parents, mated in isolated yards, with samples carefully checked for performance. Write for shipping dates.

IOWA BEEKEEPERS ASSOCIATION

State House : Des Moines, Iowa

PACKAGE BEES—ITALIAN QUEENS

Light, 3-Banded Italians reared from queens tested for heavy honey producing. Long life, good winter resistant and gentle. Stock I have been breeding from since 1926 and has made me continuous good customers. Can also furnish queens reared direct from government queen resistant to disease. Also have access to thousands of colonies of Association Members, for large orders, free from disease. War veterans preference and 5 per cent discount.

On all checks under \$100 add exchange fees of 10 cents. Over \$100 add 20 cents. No exchange on P. O. money orders.	Queens of either stock	\$1.25
	Bees, 2-Lb.	3.90
	Bees, 3-Lb.	4.90
	Per extra lb.	1.10

HOMER W. RICHARD

Route 3, Box 252A Phone 1370 El Dorado, Arkansas

ITALIANS

QUEENS

CAUCASIANS

Daughters of Queens Bred
for Resistance

Bred to Italian
Drones

\$1.25 EACH, ANY AMOUNT

2-Lb. pkg. bees with queen \$4.00 Over 25 years a shipper in U. S. A.
3-Lb. pkg. bees with queen 5:00 and Canada. Send for free circular

BLUE BONNET APIARIES

Route 1, Box 70, Mercedes, Texas

Gaspard's Quality Italian Queens and Package Bees

We are now booking orders for Spring 1945. Only 20% with order, balance at shipping time. Prices as follows:

2-Lb. package with queens	\$3.75
3-Lb. package with queens	4.75
4-Lb. package with queens	5.75

Comb packages with one frame of brood add \$1.50 per package

J. L. GASPARD

Hessmer, Louisiana

THE POSTSCRIPT

Italian Package Bees and Queens

	1 to 49	50 & over
2-lb. pkg. each	\$4.00	\$3.60
3-lb. pkg. each	5.00	4.50

10% deposit required to book order.
Small orders cash.

F. E. Morrison

P. O. Box 320, Butte City, Calif.

IMPERIAL—Queens, Package Bees and Nuclei ITALIAN—CAUCASIAN. Dependable Quality Prompt Shipment—Fair Treatment

2-Lb. with queen	\$4.00
3-Lb. with queen	5.00
2-Lb.—2 Frame Nucleus with queen	6.00
Extra queens	1.25

THE COFFEY APIARIES, Whitsett, Texas

ROOT QUALITY BEE SUPPLIES GLASS AND TIN CONTAINERS HONEY AND BEESWAX WANTED

M. J. BECK CO.

Successor to M. H. HUNT & SON
510 N. Cedar St., Lansing, Mich.

We Can Book a Few More Orders FOR 1945

April 20 to May 20 at prevailing prices.

THE VICTOR APIARIES UVALDE, TEXAS

3-Banded Italian Bees & Queens

2-lb. pkg. of bees with queen	\$4.00
3-lb. pkg. of bees with queen	5.00
Queens	1.25

No Discount

J. P. CORONA

BOX 124 KENNER, LOUISIANA

Soy Bean Flour (Pollen Supplement) and Pollen Traps

We are distributors of Staley's Lo-Fat High Protein expeller processed soy flour for beekeepers. We offer the finest quality in our soy flour and pollen traps.

Killion & Sons Apiaries

PARIS, ILLINOIS

Italian Package Bees & Queens

2-lb. package and queen	\$4.00
3-lb. package and queen	5.00
Extra Queens	1.25

Write for discount on large orders

HOWARD C. RICHARDS

Box 512
YUBA CITY, CALIFORNIA

Once when waiting for a train on the platform at Seattle I recognized a lady as the daughter of our family physician. I had known her as a girl in Atlantic, Iowa, many years before. She had married and moved to Canada. We had an interesting visit on the train and for the first time I met her husband. Now I learn that as a result of that chance meeting Carl P. Colvin, of Sedgewick, Alberta, became interested in bees and has kept them ever since.

— V —

Adolph Wesner, of Benton Harbor, Michigan, is enthusiastic about crimson clover. He says that in that part of Michigan it comes into bloom between fruit bloom and white clover. Basswood is the only thing that can compete with it and basswood must yield heavily to compare with crimson clover according to his estimate. He finds it will grow on soil more acid than other clovers and when in bloom is a beautiful sight. The reason that crimson is not more generally grown is because it is an annual that has completed its growth and is ready to be plowed under in time to plant late potatoes. More reports from those who have tried crimson clover will be welcomed.

— V —

A clipping from an English paper tells of the visit of an American soldier to the Bedfordshire Beekeepers' Association. Evan George, a New Hampshire beekeeper, told of wintering problems in New England with its severe climate. Mr. Frank Holland, of Kirby Road, Dunstable, Bedfordshire, extends an invitation to any American beekeeper who chances to be in the neighborhood to pay him a call. One soldier from Illinois and another from New England have visited him.

— V —

Our home in Hamilton overlooks the Mississippi River and the big Keokuk and Hamilton dam. Every winter after the river farther north is closed by the ice the bald eagles come down to catch fish in the open water below the dam. This winter they reappeared on December 30. They usually leave again in March as soon as the ice breaks up. For years I have greatly enjoyed watching the

big birds in their search for the winter food supply.

— V —

Inquiries coming to me regarding the quality of mustard honey are not easy to answer. Reports from different localities fail to agree as to the quality of this product. Some report mustard honey as light in color and mild in flavor while others tell us that it is amber in color and strong in flavor. Whether this difference is due to the soil or climate or whether it may be due to the different species is not clear. There are many varieties of mustard so some difference is to be expected. Reports from those who get surplus honey from this source will be appreciated. We would like to know more about the quality from many localities.

— V —

H. H. Trusty, of Paris, Arkansas, reports that he planted ten acres of vetch for his bees and harvested some excellent honey from it. His customers continued to call for more of it long after it was all gone.

— V —

Here in the midwest where winter is long and cold we envy those who live in mild climates. A letter from C. L. Gibson, Dillard, Oregon, dated January 8, tells of wild mustard in bloom with the bees bringing in pollen. The bees were also still working on mignonette and marigold planted last spring and peaches show evidence of shortly coming into bloom. Some contrast with our snow covered region.

— V —

Our good Montana friend, O. A. Sipple, tells of a quick and easy way to get rid of yellow jackets, hornets or even a colony of bees in an unwanted location. He says that a few squirts from a fire extinguisher filled with pyrene will do the job. Any colony of insects so located as to permit one to reach the nest can be quickly destroyed. Since the beekeeper receives frequent appeals for help from neighbors who want to get rid of such unwelcome insect colonies this information should be useful.

— V —

Letters with checks for seed continue to come to me. I have no seed of any kind for sale. It is my son, Melvin Pellett of Atlantic, Iowa, who advertises seed of honey plants in this and other bee magazines.

FRANK C. PELLETT.

1896 **50** 1944
Years' Experience

Although one year ahead of our Golden Anniversary, we are offering A Golden Opportunity to beekeepers to obtain all the COMB HONEY SECTIONS, HIVES, FRAMES AND SUPERS needed to handle the record honey crop anticipated this season. We have on hand and ready for shipment the restricted items listed above.

Our one piece honey sections are all made from this year's stock of choice WISCONSIN SECOND GROWTH BASSWOOD and selling at pre-war prices. Quantity discounts available.

In view of the continued shortage of paper so essential to the War effort, we did not print a catalogue in 1944, but as in the past our 1942 prices still prevail, in most cases. Or if you will send us a list of the items needed we will gladly quote prices. Remember our quantity discounts when ordering.

MARSHFIELD MFG. CO.
MARSHFIELD, WISCONSIN

YORK'S
Package Bees & Queens

Quality Bred Italians

Booking orders now for late May and June shipping. Ample young laying queens available during late May and throughout the summer.

2-lb. packages of bees with queens \$4.25 each
 3-lb. packages of bees with queens 5.25 each
 Young laying queens 1.30 each

Queenless packages, deduct \$1.10 per package.

York Bee Company
 Jesup, Georgia, U. S. A.
 (The Universal Apiaries)

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BETTER BEEKEEPING
 MORE BEES

No matter what the turn of events, the benefits of honey bees will be wanted very much. Our country will need more and better beekeeping.

This business will help. We furnish the best in books and literature. (Our new 1944 ABC and XYZ of Bee Culture is now ready.) We are anticipating your need by filling now our wareroom spaces as much as possible with standard bee supplies. You may help yourself by ordering early the things you will need.

Will you let us plan now to take care of your need of supplies.

We want honey and beeswax for cash or in trade for supplies.

A. I. ROOT CO. OF CHICAGO
 224 West Huron Street
 CHICAGO, ILLINOIS

Package Bees

(Only 2000 more packages available this season)

2-lb. \$4.00

3-lb. \$5.00

Italian Queens

(Still available in numbers)

\$1.25 each

HASTINGS' APIARIES

ELMER HASTINGS, Mgr.

150 S. Morris St. : MESA, ARIZONA
 (Valley of the Sun)



My Apiary

YES, it's my apiary which started a few years ago with only a dozen hives. But then you could add more as you desired. It has grown. Today there are row upon row of hives nestled against the wind-break. Perhaps there will be no more added this year. That will mean that each colony outfit must produce a maximum crop. It will require some careful planning and management.

I am grateful that most of my combs are built on strong Three-ply foundation. With worker cells from top-bar to bottom-bar. It does not sag nor warp. These combs I should use in the brood chamber to give me large quantities of worker bees.

Large crops of honey require strong colonies of bees. This will necessitate the strengthening of all weak colonies by adding to each a three-pound queenless package of bees or by uniting the weak colonies.



*Bee Supply Manufacturers
for over 75 years*

Plans now are to use my present equipment to the fullest.

The A. I. ROOT CO. :: Medina, Ohio